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HOMOLOGOUS SERUM JAUNDICE

A Problem in the Operation of Blood Banks

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Recognition is being given increasingly to the problem of hepatitis following the prophylactic or therapeutic administration of human blood and its products. Recent papers have described the clinical aspects of the disease and have reviewed the literature.[1] As yet, no method of prevention of homologous serum jaundice has been devised, and its relation to infectious hepatitis requires further clarification. The available evidence indicates that the icterogenic agent of both diseases is probably a virus.[1e]

The present paper has two purposes: first, to report cases of homologous serum jaundice which were observed during the year ending August 1945 in the Peter Bent Brigham Hospital in order to emphasize the importance of this disease, and second, to discuss the problem of serum jaundice and possible methods for its prevention in the operation of a hospital blood bank.

METHODS AND MATERIAL

A description of the operation of the blood bank which has been run jointly by the Children's Hospital and the Peter Bent Brigham Hospital will clarify the problems to be discussed. A brief history is taken from each donor, which is designed to exclude those with malaria, syphilis or an acute illness. Examination of the skin, mucous membranes, cardiovascular system and genitalia is supplemented by a hemoglobin determination, a serologic test for syphilis (Hinton) and blood groupings (including Rh factor). Approximately 500 cc. of blood are drawn aseptically into bottles which contain a solution of sodium citrate kept at 5 to 10 C. and used as whole blood, if needed, at any time during the ensuing five to seven days.[2] At the conclusion of this period the red cells are discarded and the plasma from ten to fifteen bottles is combined to make a pool. Each pool is numbered, a sample cultured, and a record made of the donors whose plasma it contains. The pool is then frozen and stored in the frozen state until needed—often for a year or more. When it is to be used, the plasma is thawed at 37 C. and divided into 250 cc. units. Often many weeks elapse between the administration of the first and last unit of a pool, during which time the plasma is kept at 5 to 10 C. The complete record of each pool contains the names of all patients who received plasma from it, as well as notes of any immediate reactions that were reported.

Homologous serum jaundice is a form of acute hepatitis which follows the receipt of human blood, plasma or some of its derivatives after an interval of forty to one hundred and eighty days. Three criteria were used in selecting the cases included in this report. First, each patient had received plasma and/or blood between fifty-four and one hundred and thirty-five days before the onset of jaundice. Second, in each instance the clinical observations were characteristic of acute hepatitis.[1f] Third, in the fatal cases the pathologic findings were those of fatal hepatitis.[3]

These cases were discovered in one of three ways. In some instances patients were admitted to the hospital with hepatitis, and the history of prior receipt of blood or plasma was elicited. Other patients had been in the hospital previously, and hepatitis was found to have developed subsequently by follow-up studies carried out either because of interest in the original disease or because these patients had received plasma suspected of being icterogenic. The third source was the discovery at autopsy of acute hepatic atrophy in a patient who had received plasma or blood.

The cases will be presented in three groups. The first comprises 5 persons whose disease may be traced to the same pool of plasma. In the second and third groups, comprising 3 fatal and 5 nonfatal cases respectively, plasma from a common pool was not a factor.

REPORT OF CASES OF HOMOLOGOUS SERUM JAUNDICE

A. Pool 219

Pool 219 was made of the plasma from blood collected in the spring of 1944. It was kept frozen until early in 1945 when, over the course of several months, it was administered to 9 patients, among whom 3 definite and 2 possible instances of hepatitis developed. Of the remaining 4 patients, 2 died of their original disease before sufficient time had elapsed to permit them to contract serum jaundice.

In 2 patients jaundice did not develop, although they survived their original disease. S. Dil. was a boy aged 21 months who received plasma from pool 219 and other

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1. (*a*) Homologous Serum Jaundice: Memorandum by Medical Officers in the Ministry of Health, Lancet **1**:83-88, 1943. (*b*) Neefe, J. R.; Miller, T. G., and Chornock, F. W.: Homologous Serum Jaundice: A Review of the Literature and Report of a Case, Am. J. M. Sc. **207**:638, 1944. (*c*) Paul, J. R.; Havens, W. P., Jr.; Sabin, A. B., and Philip, C. B.: Transmission Experiments in Serum Jaundice and Infectious Hepatitis, J. A. M. A. **128**:911-915 (July 28) 1945. (*d*) Rappaport, E. M.: Hepatitis Following Blood or Plasma Transfusions, ibid. **128**: 932-939 (July 28) 1945. (*e*) Grossman, E. B.; Stewart, S. G., and Stokes, J., Jr.: Post-Transfusion Hepatitis in Battle Casualties, and a Study of Its Prophylaxis by Means of Human Immune Serum Globulin, ibid. **129**:991-994 (Dec. 8) 1945. (*f*) Hepatitis, editorial, Ann. Int. Med. **24**:511-516, 1946.

2. This was the procedure at the time the blood of pool 219 was collected. Since then the introduction of a new anticoagulant (trisodium citrate, 1.33 per cent; citric acid, 0.47 per cent, and dextrose, 3 per cent) instead of sodium citrate has modified this procedure slightly.

3. Lucke, B.: The Pathology of Fatal Epidemic Hepatitis, Am. J. Path. **20**:471, 1944.

plasma and blood when he was in the Children's Hospital for treatment of a perforated appendix and generalized peritonitis. B. S. was a woman aged 71 with hypertensive cardiac disease and auricular fibrillation, who was admitted to the surgical service because of an embolus in a branch of the left femoral artery. She received 1 unit of pool 219 plasma during embolectomy. Six months after the discharge of the patient, no symptoms of hepatitis had developed.

The course of these 9 patients is summarized in figure 1, and the case histories of those in whom homologous serum jaundice developed follows:

Definite Cases of Homologous Serum Jaundice

CASE 1.—B. H., a woman aged 28, a housewife, was originally admitted in December 1944 because of anuria following a reaction to a blood transfusion given for hemorrhage incident to an abortion. During this admission her liver and spleen were not palpable. For many days she was severely uremic, anemic and edematous, and she was given seven blood transfusions and plasma from nine pools, of which one was pool 219. She recovered and was discharged. Thirteen weeks (eighty-nine to ninety-four days) after receiving the plasma there developed nausea, anorexia, diarrhea and subcostal discomfort, and she entered the hospital for the second time. On physical examination slight icterus and a tender liver, which was barely palpable on deep inspiration, were noted. The leukocyte count was 7,400; the icteric index was 30; the serum bilirubin determination was 4.1 mg. per hundred cubic centimeters, and the prothrombin level was less than 10 per cent of normal. Her condition rapidly became poorer, and the icterus increased; she lapsed into coma and died six days after admission.

At autopsy there was pronounced icterus. The liver weighed 1,050 Gm. and was flabby. The surfaces were smooth and a mottled greenish yellow-brown. The appearance of the cut surfaces of the liver was varied. Large areas, particularly in the right lobe, were pale yellow-brown, and the lobular markings were indistinct. In other large areas the sinusoids were bright red and prominent and the parenchyma between the sinusoids was pale yellow. There was no gross evidence of scarring or vascular damage.

Representative sections were fixed in Zenker's fluid and 10 per cent solution of formaldehyde and stained with eosin and methylene blue, Mallory's phosphotungstic acid and Mallory's aniline blue stains. There was complete destruction of the hepatic architecture. All liver cells appeared to be severely damaged, and the great majority were necrotic. The cells as a whole had a shrunken appearance, the boundaries of the cells were hazy or broken, the cytoplasm stained poorly and the nuclear outlines were indistinct. A few liver cells in the vicinity of the portal areas took a deeply basophilic stain. The cytoplasm of these cells was vacuolated and the nuclei pyknotic. No regenerating cells were seen. The biliary ducts were intact. In only an occasional canaliculus was there biliary stasis, and few ducts showed evidence of proliferation. There was moderate polymorphonuclear leukocytic infiltration in the portal and the immediate periportal areas. There was no evidence of repair or proliferation of connective tissue (*fig. 2*).

The gallbladder was the usual size and shape and contained 10 cc. of thin light brown bile. It was not thickened, and there were no stones. The spleen weighed 385 Gm. It was soft and flabby. Cut surfaces were reddish gray, and the malpighian bodies were prominent. On microscopic examination the splenic pulp was seen to be engorged with red blood cells. A small amount of hemosiderin was found throughout the splenic pulp.[4]

CASE 2.—P. N., a schoolboy aged 15 who had catarrhal jaundice five years previously, was admitted to the surgical service on Jan. 11, 1945, with acute appendicitis and peritonitis. A subphrenic abscess and a sterile pleural effusion had developed following operation, and he received three blood transfusions and 17 units of plasma, of which 2 came from pool 219. He recovered completely. Early in April, after abdominal and midback pain and vomiting of one day's duration, he was admitted to the surgical service. Physical examination elicited only tenderness over the lower part of the abdomen. The leukocyte count was 15,800; the icteric index was 9, and the stool was brown. He went home well in two days. Thirteen weeks after receiving the plasma of pool 219 he noted anorexia, fatigue, weakness and mild itching of his hands. These symptoms were followed within three days by a temperature of 102 F. When he was admitted to the medical service April 21, 1945 he was moderately jaundiced; there was tenderness to percussion over his liver, which could not be felt, and a palpable spleen. The leukocyte count was 6,000; the icteric index was 50; the serum bilirubin level was 14.7 mg. per hundred cubic centimeters; the stool was brown, and the urine contained bilirubin. He recovered uneventfully. About two weeks prior to the onset of jaundice he had been in the company of a girl who had been discharged from this hospital a month before following an attack of infectious hepatitis.

CASE 3.—D. S., a man aged 52, of Italian birth, had Addison's disease. At the end of November 1944 he underwent operative intervention in this hospital for acute appendicitis and received 12 units of plasma. Thereafter he was well until Jan. 12, 1945, at which time he was admitted with an infection of the upper part of the respiratory tract and an addisonian crisis. He was given 5 units of plasma, of which 2 came from pool 219. He recovered rapidly but about six weeks later suffered from "chest and leg pains," which were apparently not severe enough

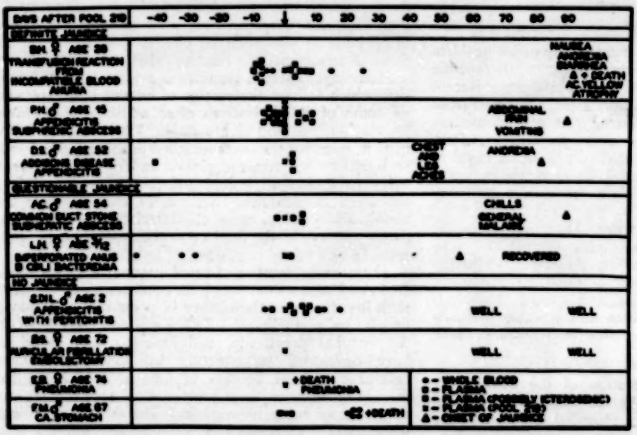

Fig. 1.—Homologous serum jaundice, pool 219.

4. This case is being reported in full elsewhere by Burwell, E. L.; Kinney, T. D., and Finch, C. A.: Renal Damage Following Intravascular Hemolysis, New England J. Med., to be published.

to warrant seeking medical aid. Jaundice appeared in the first week of April, twelve weeks after he had received the plasma from pool 219. On admission on April 9 he was jaundiced, but the liver and spleen were not felt. The leukocyte count was 5,000; the icteric index was 25; the serum bilirubin determination was 5.9 mg. per hundred cubic centimeters; the prothrombin level was normal; the stool was brown, and the urine contained bilirubin. His hospital course and convalescence were uneventful.

Questionable Cases

CASE 4.—A. C., an Italian man aged 54 entered the hospital because of three weeks of increasing jaundice. Abdominal exploration was performed, and his pancreas was removed. At this time he received blood and plasma, including 2 units from pool 219. Pathologically, the pancreas showed a well differentiated, slowly growing adenocarcinoma with a decided degree of fibrous stroma. The jaundice of the patient subsided. In May 1945, eighty-five to ninety-two days after the plasma from pool 219 was given, jaundice reappeared. Physical examination revealed normal conditions save for icterus; his leukocyte count was 6,800; his icteric index, 20, and his serum bilirubin, 2.5 mg. per hundred cubic centimeters. Although his jaundice diminished, he soon began to have recurrent episodes characterized by chills, reappearing jaundice and leukocytosis during the next six months. Finally a second laparotomy was carried out, and a stone was found in the common bile duct. Cholangiograms at this time showed moderate dilatation of all the intrahepatic biliary ducts. The jaundice slowly cleared and the stools became brown, although some bile continued to drain from the wound. During the next six months the patient grew progressively sicker, and two subdiaphragmatic abscesses were drained. He was admitted on May 17, 1946 because of weakness, vomiting and a bloody discharge from his abdominal incision. Icterus increased rapidly, and the patient died July 9, 1946.

At autopsy pronounced generalized icterus was present. There was edema of the extremities and over the sacrum. A total of 5,800 cc. of clear amber fluid was found in the peritoneal cavity. All the structures in the right upper quadrant of the abdomen were bound together by dense, firm, white adhesions. An abscess containing light green pus was found between the diaphragm and the right lateral margin of the liver. The liver weighed 960 Gm. The capsule, except where it was involved in adhesions or inflammatory reaction, was smooth and green-brown. The left lateral and anterior edges of the left lobe were firm, white and fibrotic. Occasional small, firm, white tumor nodules were scattered throughout the liver. Sections of the liver were green-brown, and thin, white purulent matter exuded from both large and small biliary ducts. The portal vein just proximal to the splenic vein was decidedly constricted by the dense adhesions in this area. The gallbladder was thickened, surrounded by adhesions and contained pus. The common duct was partially obscured by adhesions, and its opening into the jejunum could not be identified. The head and adjacent body of the pancreas had been removed, as had the first and second portions of the duodenum. The remaining pancreatic tissue showed definite softening and atrophy.

Microscopic sections of the liver disclosed a pronounced increase in fibrous tissue in the portal areas, with decided lymphocytic infiltration. There was an acute cholangitis and pericholangitis with stasis of the bile and some proliferation of the biliary duct. The tumor nodules were made up of well differentiated adenocarcinoma. The gallbladder showed chronic cholecystitis. There was complete disappearance of the acinar tissue of the pancreas, with only a few islets and large ducts present in the scar tissue. Well differentiated adenocarcinoma was found in sections of the scar tissue from the regions near the site of the head of the pancreas.

In the light of the preceding history, the attack of jaundice in May 1945 cannot be definitely diagnosed as homologous serum jaundice, although it is equally impossible to state that the patient did not have this disease at that time. The latter is true because the jaundice appeared between the eighty-fifth and ninety-second day after the administration of the icterogenic plasma and the low white blood cell count and clinical course were consistent with those of homologous serum jaundice. At autopsy the conditions observed in the liver were those that are associated with long-standing biliary obstruction with superimposed infection. However, this would not invalidate the assumption that the patient had had homologous serum jaundice, as little or no residual stigmas are found in the liver after recovery from homologous serum jaundice.

CASE 5.—L. H., a baby girl aged 3½ months, was admitted on Sept. 25, 1944 for repair of a colostomy and intra-abdominal adhesions resulting from an operation for imperforate anus at an outside hospital. She had to have four abdominal operations, including an ileostomy, because of repeated bouts of intestinal obstruction; she received six transfusions of plasma and eleven of blood up to Jan. 31, 1945, at which time she was given 50 cc. of plasma from pool 219 and, on the following day, a like amount from pool 191. Fifty-six days later, on March 27, 1945, jaundice developed and another exploratory operation was performed. Many adhesions were found, which accounted for the symptoms of intestinal obstruction. The gallbladder was somewhat distended, but no definite evidence of biliary obstruction was discovered. Two weeks later her jaundice had disappeared, and the child did well until August 1945, when there developed diarrhea, then bacteremia and meningitis due to Escherichia coli. She died Aug. 25, 1945.

At autopsy the body was that of a normally developed and fairly well nourished white female infant. There were multiple operative scars over the abdomen and extensive fibrous adhesions throughout the peritoneal cavity. An ileostomy and ileo-ileal side to side anastomosis were patent. The proximal two thirds of the small intestine was greatly distended. There was an acute and chronic enteritis. The liver weighed 370 Gm. (normal weight, 304 Gm.) and was of normal size, color and consistency. The cut surfaces showed normal lobular architecture with scattered areas of yellow mottling. Microscopic sections of the liver showed slight lymphocytic infiltration in the portal spaces. There was moderate vacuolization of hepatic cells in the periportal regions. Hemosiderin was found in macrophages in the portal areas and in the Kupffer cells. In places the sinusoids were dilated and the hepatic cell cords narrowed. The gallbladder was completely encased by fibrous tissue, which could be dissected from it with ease, but the gallbladder itself was not abnormal. The biliary ducts were patent and of normal caliber. The spleen was normal. In addition to the preceding observations the patient had an acute focal meningitis due to Aerobacter aerogenes; acute and chronic bronchitis, and pulmonary edema.

Fig. 2.—Photomicrograph showing extensive hepatic cell damage and loss of structure; eosin and methylene blue stain.

B. Other Fatal Cases

CASE 6.—J. F. L., a man aged 59, was admitted in September 1944 with diabetes mellitus and symptoms of cholelithiasis for twenty years. On admission his liver was palpable 4 finger-breadths below the costal margin, but the spleen could not

be felt. Gallstones were demonstrated roentgenologically, and a cholecystectomy was performed on Oct. 19, 1944; the gallbladder, containing stones, was found to be bound down by adhesions. The intestine protruded after operation; a wound abscess developed at the edge of the liver, and the patient exhibited transient auricular fibrillation. Between October 20 and November 20 he received 20 units of plasma and four transfusions of whole blood. He was discharged improved.

On Jan. 20, 1945 he reentered with anorexia, nausea, vomiting and fever of ten days' duration. The physical observations were unchanged. The leukocyte count was 12,400; the icteric index was 51; the alkaline phosphatase measured 9.4 Bodansky units; the stool was brown with a 2 to 3 plus guaiac reaction, and urinalysis was positive for bilirubin. In the hospital the patient grew steadily worse. The icteric index rose to 100 and the white blood cell count climbed to 24,000, although the stools remained brown and the prothrombin level, normal. Nausea and vomiting were intractable, coma developed and ascites collected, requiring a paracentesis. The jaundice had appeared sixty-one days after the last and ninety-two days after the first of the many plasma infusions of the patient.

At autopsy the body was decidedly icteric. There was a sinus tract from which thin green fluid could be expressed, running from the upper edge of the healed cholecystectomy incision to the site of the gallbladder. The gallbladder had been completely removed, and its place was taken by dense scar tissue. There was 5,500 cc. of clear yellow-green fluid present in the peritoneal cavity.

The liver weighed 2,080 Gm. and was soft and flabby. The external surface was slightly granular and mottled yellow-green. Cross sections of the liver showed large focal areas in which there was pronounced congestion of the inusoids. Here the parenchyma of the liver was green and extremely soft with indistinct lobular markings. Elsewhere the sinusoids were not so prominent and the parenchyma was a homogeneous yellow-green, firm in consistency; the lobules appeared to be divided by a delicate gray network. In still other, but smaller, regions the liver was deep red-blue and soft in consistency, and there was complete loss of structure. The common duct was patent. Microscopic examination showed great destruction of the hepatic parenchyma. Many liver cells had disappeared, and there were either broad areas of hemorrhage or bands of homogeneous young fibrous tissue between the remaining cells. There was diffuse polymorphonuclear leukocytic infiltration. The remaining cells were well outlined, with homogeneous basophilic cytoplasm which showed only occasional vacuolization. The nuclei were round and regular with distinct chromatin networks, though occasional cells contained several nuclei, suggesting regeneration. Single, homogeneous, round, deeply acidophilic bodies, of the size of liver cells, were seen. Pigment-laden Kupffer cells were prominent. There was no evidence of dilatation of the biliary ducts or of biliary stasis. Proliferation of the biliary ducts was well defined throughout the scarred areas. The findings in the liver were not considered to be compatible with changes resulting from disease of the gallbladder or obstruction of the common duct but were considered to be consistent with the lesions found in homologous serum jaundice. The spleen weighed 200 Gm., was soft and flabby and dull red-gray. Microscopic examination showed decided congestion of the pulp with red blood cells.

Case 7.—J. P. M., a man aged 55, was admitted in June 1944 because of hemorrhage from a duodenal ulcer of eighteen years' duration. On physical examination, a sharp nontender hepatic edge was felt 2 fingerbreadths below the costal margin. The prothrombin level was normal, but there was 30 per cent sulfobromophthalein sodium retention in thirty minutes with an initial dose of 5.7 mg. per kilogram of body weight. Eight days later a subtotal gastrectomy was performed. At operation the "liver appeared free from disease and the gallbladder appeared normal," according to the surgeon. Between June 27 and July 26, 1944 the patient received 6 units of plasma and 2,500 cc. of whole blood. He was discharged August 5, but on Sept. 2 he was readmitted because of three days of postprandial diffuse abdominal pain, together with vomiting and obstipation. The temperature was 101.5 F.; the pulse rate was 90; there was slight icterus and a tense abdomen. The leukocyte count was 9,000; the icteric index was 10; the stool was black, and the prothrombin time was 70 seconds with a control of 55 seconds. He was febrile and his jaundice deepened during the thirteen days that he remained alive. The leukocyte count was low until the fourth day (6,200) and rose to 25,000 four days before death. The stools became tan and then gray with a 4 plus guaiac reaction, and there was bilirubinuria. Massive ascites appeared, and fluid obtained by paracentesis a week before death had a specific gravity of 1.012 and was sterile to culture. Jaundice had appeared thirty-eight days after the last and sixty-six days after the first infusion of plasma.

At autopsy the body was decidedly icteric. There was 1,000 cc. of pale yellow fluid in the peritoneal cavity. The liver weighed 1,340 Gm. and was soft, flabby and pale yellow. Cross sections were homogeneously yellow, and the usual lobular markings were absent. Microscopic sections, prepared as described previously, showed complete loss of hepatic structure. Almost all the liver cells were necrotic. There was extensive diffuse polymorphonuclear leukocytic infiltration. An occasional small island of liver cells which appeared to be regenerating was found. Round acidophilic bodies, similar to those seen in the cast of J. F. L. (case 6) were found in the areas of greatest destruction. There was active proliferation of the biliary ducts. A few fibroblasts were present, but there was no increase in scar tissue. The gallbladder and extrahepatic ducts were not remarkable. The spleen weighed 100 Gm., and appeared normal on gross and histologic examination.

Case 8.—C. H., a woman aged 68, was admitted on May 2, 1945 because of acute intestinal obstruction. She had noticed rectal bleeding for two years, and for three weeks before admission she had complained of crampy abdominal pain. On physical examination there was tenderness in the left lower quadrant of the abdomen, and a mass was felt on rectal examination. The spleen and liver could not be palpated. At laparotomy, performed May 7, acute intestinal obstruction together with reduplication and diverticulitis of the sigmoid was found. The "liver looked not . . . abnormal" to the surgeon. A transverse colostomy was made; a month later a partial left colectomy was performed, and on July 5 the colostomy was closed. At that time the liver and gallbladder again appeared normal. The patient received plasma on May 5, 6, 7 and 10 and 500 cc. of whole blood on June 7. There was an uneventful convalescence, and the patient returned home.

Suddenly, on July 31, there was pain in the right upper quadrant of the abdomen and fibrillary twitching of the face and extremities appeared. The liver was not palpable. Twelve hours later light icterus was seen, and forty-eight hours after the onset the patient produced coffee-ground vomitus. By August 2 the icteric index was 190 and she was unconscious; on August 4 she died. Jaundice had appeared eighty-three days after the last infusion of plasma, eighty-eight days after the first and fifty-five days after her only whole blood transfusion.

The autopsy was performed at another hospital. The liver weighed approximately 650 Gm., was decidedly shrunken with a wrinkled capsule, and was soft, flabby and mottled yellow and red. A histologic section examined in this hospital showed changes similar to those described in the previous cases, complete destruction of liver cells with diffuse leukocytic infiltration. The biliary ducts were intact, and in a few regions there was evidence of proliferation. There were no other significant observations.

C. Other Nonfatal Cases

Case 9.—A. F., a man aged 49 years, received 1 unit of plasma in July 1944 while undergoing prostatectomy for benign prostatic hyperplasia. After discharge he suffered from vague abdominal complaints. Ten weeks after the administration of the plasma he passed darkly colored urine, and several days later jaundice and symptoms of hepatitis appeared. On readmission his liver was palpable. The icteric index reached 119 with a simultaneous prothrombin level of less than 30 per cent. Thereafter the jaundice gradually diminished, and the icteric index was 19 seven weeks after the onset of the illness.

CASE 10.—J. F. M., a man aged 57, suffered severe and continued intestinal hemorrhage during an attack of typhoid fever treated in this hospital in July and August of 1944. Twenty-one transfusions of whole blood (11 liters) and 2 units of plasma were given in a period of ten days. He recovered, and when seen four and a half months later in the follow-up clinic related that about seven weeks after the transfusions he had had hives for several days, and that two to three weeks later he noted jaundice, fatigue, anorexia, nausea and vomiting, dark urine and putty-colored stools. He improved without medical care but felt tired for a month. In the follow-up clinic, two months after this illness, his liver was palpable 2 fingerbreadths below the costal margin, but this had also been noted when he had typhoid fever. The icteric index was 11, and a sulfobromophthalein sodium test (5 mg. per kilogram of body weight) showed no retention of the dye in his serum after thirty-five minutes.

CASE 11.—J. H., a man aged 28, suffered from both Addison's disease and diabetes mellitus and had been admitted to this hospital about once a month for over two years. On Oct. 8 and 9, 1944 he received 550 cc. of plasma incident to a tooth extraction. He was admitted three times during November and December for treatment of his primary diseases and required plasma (3 units) on December 27 and 28. About Feb. 7, 1945 he passed dark urine; two weeks later nausea, vomiting, anorexia and jaundice appeared; he was readmitted February 27. On physical examination a smooth and nontender liver was felt 2 fingerbreadths below the costal margin, an observation not previously noted, but his spleen was not palpable. On February 28 the leukocyte count, normally low in this patient, was 4,550, with 33 per cent polymorphonuclear leukocytes and 54 per cent lymphocytes. The icteric index was 40; the stool was brown, and the sulfobromophthalein excretion curve showed abnormally high retention. By April 12 the icteric index had fallen to 15, with a leukocyte count of 7,200 and an almost normal sulfobromophthalein sodium excretion curve. From the date of administration of plasma in October to the onset of jaundice, one hundred and thirty-four or one hundred and thirty-five days had elapsed; from the time plasma had been given to him in December until the appearance of jaundice there had been an interval of fifty-four or fifty-five days.

CASE 12.—C. S., a woman aged 67, was admitted May 8, 1945 because of rectal bleeding. On physical examination the liver was just palpable, and a hard mass was felt protruding into the rectal canal. On May 22 a combined abdominal-perineal resection was carried out for carcinoma of the rectum, and that day she received 250 cc. of plasma and 3 units of whole blood. Only slight nausea and anorexia followed the operation, but at the end of June vomiting became severe; between June 28 and July 8 she required 10 units of plasma. Because the vomiting continued until mid-July, a gastrointestinal series of roentgenograms was made, which demonstrated a duodenal ulcer with pyloric obstruction. On July 21, sixty days after the first infusions of plasma but less than twenty-three days after the last, she appeared jaundiced and the icteric index was 47. By July 28 it was 66; the leukocyte count was 5,100, the serum bilirubin, 12.8 mg. per hundred cubic centimeters, and the alkaline phosphatase, 14.5 Bodansky units. Thereafter the patient gradually improved.

CASE 13.—J. D., a man aged 38, was admitted to the surgical service May 19, 1945 because of epigastric pain, nausea and vomiting of five hours' duration. His leukocyte count was 29,000. At laparotomy he was found to have a malrotated cecum with a perforated retrohepatic appendix, although the liver itself appeared normal. During convalescence dehiscence of the wound occurred and he was extremely ill, requiring 10 units of plasma between May 20 and 25. He was discharged June 15. About July 20 he noted anorexia, nausea and headache, and in the following five days dark urine, clay-colored stools and jaundice appeared. When admitted to the medical service August 1, no history of alcoholism, prior hepatic symptomatology or exposure to hepatitis could be elicited. On physical examination, tenderness under the right costal margin was found and neither liver nor spleen was palpated. The temperature was normal; the leukocyte count was 10,000, and the icteric index 78, with a serum bilirubin of 19.1 mg. per hundred cubic centimeters. Tenderness of the right upper quadrant of the abdomen continued for a week; the jaundice became more pronounced, and the patient suffered from transient itching. The liver was never felt. The incubation period from the receipt of plasma to the onset of jaundice was sixty-four to sixty-nine days.

COMMENT

A. Criteria and Cases

There is no confirmatory diagnostic aid which will differentiate homologous serum jaundice from infectious hepatitis. The criteria by which these cases were selected suggest that the former diagnosis was correct but do not prove that the disease was not infectious hepatitis. Moreover, the majority of these patients were over 30 years of age, whereas infectious hepatitis usually occurs in younger persons.

The cases related to pool 219 have the greatest likelihood of being homologous serum jaundice. In 3 of the 7 recipients who lived long enough to have icterus develop it did so, while jaundice, which could have been due either to hepatitis or to obstruction of the biliary ducts, occurred in 2 of the other 4 patients two to three months after receiving the plasma. The incubation period between transfusion and the onset of icterus was remarkably constant, eighty-four to ninety-four days, and is consistent with that given in other reports.[5] While it is true that the recipients in whom jaundice developed had also received blood and/or plasma in addition to that from pool 219, it is in relation to the date on which the plasma from the latter pool was given that the constancy of the incubation period is found. This fact is particularly apparent in case 3; D. S. had received plasma from other pools seven weeks prior to the administration of that from pool 219. Two of the 3 patients had brief periods of illness before the onset of jaundice, which is characteristic of many serum jaundice cases.[6] Finally, P. N.'s history (case 2) of prior "catarrhal jaundice" suggested that his present disease was homologous serum jaundice, for second attacks of infectious hepatitis (catarrhal jaundice) are uncommon,[1b] and an attack of this disease probably does not confer immunity to homologous serum jaundice.[7]

B. Source of Icterogenic Agent

Among donors to an icterogenic plasma pool, at least 1 might be expected to have had a history of jaundice. In investigating the cases of jaundice in the United States Army which followed immunization with yellow fever vaccine made with human serum, Sawyer and his associates [8] concluded that all "highly icterogenic" lots (lots associated with more than 10 cases of jaundice per 1,000 doses net issue) contained some serum from persons with a history of jaundice. After the readmission of patients with jaundice related to pool 219, the 15 donors to this pool were investigated more closely than had been done at the time their blood was taken. All were contacted in person or by mail and were

5. Sawyer, W. A.; Meyer, K. F.; Eaton, M. D.; Bauer, J. H.; Putnam, P., and Schwentker, F. F.: Jaundice in Army Personnel in the Western Region of the United States and Its Relation to Vaccination Against Yellow Fever, Am. J. Hyg. **39**: 337-430, 1944. Paul, Haven, Sabin and Philip.[1a]

6. Neefe, J. R.; Stokes, J., Jr.; Reinhold, J. G., and Lukens, F. D. W.: Hepatitis Due to the Injection of Homologous Blood Products in Human Volunteers, J. Clin. Investigation **23**: 836-856, 1944.

7. Darmady, E. M., and Hardwick, C.: Syringe-Transmitted Hepatitis, Lancet **2**: 106, 1945. Oliphant, J. W.: Infectious Hepatitis: Experimental Study of Immunity, Pub. Health Rep. **59**: 1614-1616, 1944. Neefe, Miller and Chornock.[1b] Hepatitis, editorial.[1f] Neefe, Stokes, Reinhold and Lukens.[6]

8. Sawyer, W. A.; Meyer, K. F.; Eaton, M. D.; Bauer, J. H.; Putnam, P., and Schwentker, F. F.: Jaundice in Army Personnel in the Western Region of the United States and Its Relation to Vaccination Against Yellow Fever, Am. J. Hyg. **40**: 35-107, 1944.

asked if they recalled ever having had jaundice or any illness in the past three years. Specific inquiry with reference to other symptoms of infectious hepatitis was made. They were asked if they had ever received blood or plasma transfusions, or injections of serums or vaccines, and a family and contact history with respect to jaundice was secured.

Twelve of the 15 donors gave completely negative responses to these inquiries. Of the remaining 3, 1 woman aged 29 had had repeated episodes of jaundice throughout her life until her spleen was removed in 1939; pathologic examination of the spleen had confirmed the clinical diagnosis of congenital hemolytic icterus. The second, a man aged 33, was in the Merchant Marine at the time the investigation was carried out, but it was learned from his wife that he had had one brief episode of jaundice three years before he gave his blood. The third man, 30 years of age, was a Navy student at Harvard University at the time of his donation. He had received yellow fever vaccine (lot 1229) in December 1943, but this lot was prepared without human serum. More important, in May 1944,

TABLE 1.—*Transfusion Record in Eleven Cases of Homologous Serum Jaundice*

Case	Whole Blood	Plasma	Plasma Pools	Suspicious Plasma Pools *	Suspicious Pools, Pool Nos.
1. B. H. (fatal)	7	11	9	6	137, 175, 196, 210, 220, 225
2. P. N.	3	17	11	7	135, 137, 169, 174, 182, 219, 225
3. D. S.	0	12	9	3	169, 191, 219
4. A. C. (questionable)	2	6	5	3	135, 169, 219, 220
5. L. H. (questionable)	11	8	8	2	191, 219
6. J. L. (fatal)	4	20	10	3	174, 175, 189
7. J. P. M. (fatal)	6	6	5	1	213
8. C. H. (fatal)	1	5	4	0	
9. A. F.	0	1	1	0	197
10. J. F. M.	21	2	2	1	213
11. J. H.	0	5	3	2	196, 220
12. C. S.	3	11	7	2	245, 260
13. J. D.	0	10	7	3	182, 235, 245

* Suspicious because jaundice developed in more than 1 patient who received plasma from these pools.

a few weeks after his donation of blood, he reported "loss of appetite, nausea, soreness in the right thoracic region, just at the last rib, yellow stools, easy fatigability and nervousness." He did not recall any jaundice. At that time a roentgen examination of his gallbladder was made at a naval hospital and was reported to have revealed normal conditions. He added that at "the present time (March 1946) I occasionally have similar reactions, especially the soreness and nausea." These symptoms are strongly suggestive of hepatitis, for this can occur without jaundice.[9] Either of these last 2 donors may have been the source of the icterogenic agent of pool 219.

C. Incidence and Mortality

Incidence: If three months is assumed to be the average incubation period of homologous serum jaundice, the 11 patients whose cases are presented in this report received their infectious plasma or blood between June 1944 and May 1945. In this period of a year, 1,494 units of blood and 949 units of plasma were given to patients in the hospital, and a minimum estimate of the incidence of the disease would therefore be 1 in every 222 transfusions. For the true incidence it would be necessary to follow up all recipients. Case 10, that of J. F. M., shows that some attacks of homologous serum jaundice are so mild that medical assistance is not sought and only follow-up studies will uncover them. This is a huge task. It is probable that as a result of the pooling procedure plasma is much more apt to produce jaundice than is whole blood; the minimum incidence would be 1 in every 86 transfusions of plasma if all these cases resulted from plasma.

That this is actually so is strongly suggested by recent reports from Britain,[10] in which the incidence of jaundice within five months of transfusion was nil in 891 patients who received whole blood and 7.3 per cent in 1,054 patients who received serum or plasma. This higher incidence of the disease in England probably is the result of two factors: first, the larger number of bleedings (from 120 to 800) per pool; and second, the careful follow-up of every recipient. The comparative frequency of icterogenic donors in Britain and the United States as well as the comparative susceptibility of the recipients also may be quite different. These authors were presumably dealing with liquid plasma and serum, whereas the plasma we use has been kept in the frozen state until shortly before its administration.

As a consequence of pooling, even in those instances where a patient who is known to have hepatitis is a recipient of a particular pool and serves as the starting point, the epidemiologic problem is complex. If 1 recipient of a pool contracts jaundice, the determination of the incidence and source of infection in that pool requires the investigation of all the other recipients and all the donors—about 12 of each in our blood bank. A further complication is that most patients who receive plasma require multiple transfusions of plasma and often of blood, thus implicating more than one pool; 10 of the 11 patients here reported received multiple transfusions. Thus, to complete the study of a patient with homologous serum jaundice who has been given plasma from four pools would necessitate contacting roughly 40 to 50 donors and 40 to 50 recipients. Table 1 illustrates this complexity.

What is the risk of homologous serum jaundice to a patient given plasma? The answer to this important question cannot be given at present but should depend on the number of pools from which the patient receives plasma, the number of donors contributing to each pool and the incidence of infectious donors in the community. Sawyer and his colleagues[8] found that 23 of 367 donors gave a history of jaundice and suggested that as high as 6 per cent of the population might be periodic carriers. Lots of homologous blood products which are definitely icterogenic vary greatly in the incidence of jaundice following their administration. Fox and his collaborators[11] proposed that a second etiologic factor must be present in addition to the primary agent in the blood product. They suggested that this second factor might be another infectious agent, chronic intoxication of the liver or lowered hepatic resistance of an alimentary nature. In table 2 are given the diseases which antedated the receipt of the presumably icterogenic plasma and which might have caused hepatic damage in the patients considered in this report and in those

9. Barker, M. H.; Capps, R. B., and Allen, F. W.: Chronic Hepatitis in the Mediterranean Theater: A New Clinical Syndrome, J. A. M. A. **129**: 997-1003 (Aug. 4) 1945. Paul, Havens, Sabin and Philip.[12]

10. Spurling, N.; Shone, J., and Vaughan, J.: Homologous Serum Jaundice, Brit. M. J. **1**: 409-413, 1946.

11. Fox, J. P.; Manso, C.; Penna, H. H., and Para, M.: Observations on the Occurrence of Icterus in Brazil Following Vaccination Against Yellow Fever, Am. J. Hyg. **36**: 68-116, 1942.

recipients of pool 219 who escaped subsequent hepatitis. Most of the patients who contracted jaundice suffered from serious intra-abdominal disease or conditions like Addison's disease or typhoid fever, in which nutrition is affected.

That serum jaundice, like most other infectious diseases, is milder in children is also suggested by the fact that none of our cases except the questionable instance of S. Dil., who received plasma from pool 219, have been recognized in the Children's Hospital, where a considerable amount of the plasma has been used.

Mortality: The mortality in homologous serum jaundice is variable. It has been reported as about 0.2 per cent.[12] in the Army during the outbreak from yellow fever vaccine, as 2 per cent [11] in a Brazilian outbreak with similar vaccine and as 22 per cent in a group of infections following the use of measles serum in England.[18] In our series the mortality of 36 per cent is abnormally high, since the true incidence of the disease, as just pointed out, is higher than that reported here because only the severer cases came to our attention in the hospital. The number of fatal cases included is high because observations at autopsy served as a source of cases.

D. Methods of Control

Measures designed to prevent homologous serum jaundice may be divided into two categories. The first, with the advantage of immediate applicability, are concerned with the operation of the hospital blood bank and may be expected to diminish the incidence of the disease but not to abolish it. The second comprise possible methods of future control.

1. Methods of Immediate Applicability: In the operation of the blood bank greater efforts should be made to detect the infectious donors; the practice of pooling plasma should be curtailed, and lots of plasma should be given to as few recipients as possible. It is doubtful whether all infectious donors can be found until more is known of the disease itself. However, the examination of donors should include procedures which will uncover the following types of persons, whose blood in our opinion should not be used.

History: any person who has (1) ever had jaundice or hepatitis; (2) had contact with a person with jaundice in the past year; [13] (3) received human blood or its derivatives prophylactically or therapeutically in the past year,[13] except products of plasma fractionation, or (4) been a hospital patient in the past year.[14]

Physical examination: any person who has (1) fever, (2) icterus, or (3) an enlarged or tender liver, or enlarged spleen.

Laboratory examination: any person who has bilirubinuria or hyperbilirubinemia.

Such procedures will detect some nonicteric instances of hepatitis. Neefe, Stokes and their associates [6] closely observed 9 volunteers who had been given inoculations of infective serum and uncovered clinical and laboratory evidence of hepatic dysfunction before jaundice appeared. Of a number of laboratory tests used, they found the detection of bilirubinuria and the retention of sulfobromophthalein sodium the most reliable. Simple tests for bilirubinuria have recently been described, which are of value in detecting infectious hepatitis as early as six days prior to jaundice.[15]

The present procedure at the blood bank at the Peter Bent Brigham Hospital is to determine the serum bilirubin level of any unit of plasma which appears yellow and to discard those units in which the serum bilirubin level is elevated. The fact that blood is infectious for a number of weeks before jaundice develops raises the possibility of holding plasma two or three months and checking donors before using it. A sterile sample of the plasma of each donor whose blood or plasma is used in the bank might be retained for at least a year after his blood or plasma has been administered, in the hope that study of samples from donors of icterogenic blood might lead to better methods for their detection. (Such procedures are worthy of study but not applicable as a routine.)

TABLE 2.—*Possible Sources of Hepatic Damage Prior to Receipt of Plasma or Blood*

Summary of the factors which might have caused hepatic injury in those patients who later contracted hepatitis probably due to plasma or blood. (Also included are those recipients of plasma from pool 219 who survived without contracting hepatitis.)

Case	Recipients of Plasma from Pool 219	Incubation Period, Days
1. D. H.	Pregnancy; abortion; transfusion reaction	89 to 94
2. P. N.	Peritonitis; subphrenic abscess; "catarrhal jaundice" 5 yrs. before	91
3. D. S.	Addison's disease	84
4. A. C.	Jaundice; ? cholelithiasis	86 to 93 (questionable jaundice)
5. L. H.	Chronic recurrent intestinal obstruction	56 (questionable jaundice)
6. Dil.	Peritonitis	Jaundice did not develop
7. S.	None; hypertensive cardiovascular disease	Jaundice did not develop
	Recipients of Plasma from Other Pools	
8. J. L.	Cholelithiasis; recurrent jaundice; diabetes mellitus; abscess at edge of liver after cholecystectomy; liver palpable	61 to 92
9. J. P. M.	Peptic ulcer with hemorrhage; palpable liver; 30 per cent sulfobromophthalein retention	38 to 66
10. C. H.	Diverticulitis; reduplication and obstruction of sigmoid	83 to 88
11. A. F.	None; benign prostatic hyperplasia	About 70
12. J. F. M.	Typhoid fever; palpable liver	About 65 to 70
13. J. H.	Addison's disease; diabetes mellitus	54 to 55 or 134 to 135
14. C. S.	Rectal carcinoma; pyloric obstruction; duodenal ulcer	69
15. J. D.	Retrohepatic appendicitis; perforated appendix	64 to 69

The basis for condemning the practice of pooling plasma is the fact that the amount of infective serum necessary to produce the disease is incredibly small. It has even been suggested that small amounts may be more effective in producing the disease than large volumes.[16] The findings of Sawyer and his associates [9] indicated that an amount of icterogenic serum of the order of 0.01 to 0.001 cc. is all that is needed to transmit hepatitis. Therefore, if each donor's contribution to a pool is 250 cc. (250,000 infective doses if 0.001 cc. is the minimum effective dose) increasing the size of pools should increase the incidence of jaundice. Hence, pools should be kept as small as possible. If pooling is completely eliminated and plasma from 1 donor is

12. Outbreak of Jaundice in the Army, Circular Letter 95, Office of the Surgeon General, Washington, D. C., 1942, J. A. M. A. **120**: 51-54 (Sept. 5) 1942. Hepatitis, editorial.[17]

13. The period of a year is arbitrarily selected as the longest period practicable without seriously hampering the operation of the bank.

14. This is to exclude donors who might have been infected by the procedures for taking blood samples or giving hypodermic injections which are routinely used in most hospitals, and which may transmit the disease. Hepatitis Transmitted by Syringe, Current Comment, J. A. M. A. **125**: 668 (June 30) 1945. Also see footnote 17.

15. Gellis, S. S., and Stokes, J., Jr.: The Methylene Blue Test in Infectious (Epidemic) Hepatitis, J. A. M. A. **128**: 782-783 (July 14) 1945. Hawkinson, V.; Watson, C. J., and Turner, R. H.: A Modification of Harrison's Test for Bilirubin in the Urine Especially Suited for Mass and Serial Usage, ibid. **129**: 514-515 (Oct. 13) 1945. Watson, C. J., and Hawkinson, V.: Semiquantitative Estimation of Bilirubin in the Urine by Means of the Barium-Strep Modification of Harrison's Test, J. Lab. & Clin. Med. **31**: 914-915, 1946.

administered to only 1 recipient, then an infective donor can cause, at most, 1 case of homologous serum jaundice. The elimination of pooling would necessitate radical changes in the operation of blood banks, one of which would be the requirement that plasma should be typed and cross matched, or treated with group-specific substances.[16] The allocation of a particular pool to a particular patient until there is no chance of his needing more plasma would cut down on the multiple chances for infection resulting from the present random system of distribution.

2. Methods of Future Control: Possible methods of prevention of homologous serum jaundice in the future may be sought along two lines: treatment of the blood or blood product or treatment of the recipient.

The infective principle is extremely rugged. It resists storage in the frozen and dried state, filtration, a temperature of 56 C. for one hour, exposure for months in mediums containing 0.5 per cent each of phenol and ether or 0.2 per cent tricresol and ether extraction.[17] Oliphant and Hollaender have found that the exposure of icterogenic serum in a specially constructed apparatus to ultraviolet light of 2,537 Å may reduce the icterogenic capacity of the serum decidedly.[18] The products of plasma fractionation[19] do not seem to transmit the icterogenic agent.[20] Since these fractions are specific and superior agents for many purposes for which human plasma and serum are employed, their use instead of the latter might be the most effective preventive. Moreover, the use of whole blood should be encouraged for the treatment of traumatic shock, since it is not only probably safer than plasma from the point of view of homologous serum jaundice but also a more physiologic and effective replacement fluid.

Attempts have been made to reduce the incidence of homologous serum jaundice by the intramuscular administration of the gamma globulin fraction of human plasma[21] to the recipients of blood or plasma. The evidence gathered to date[22] does not show conclusively that such treatment is as effective as in infectious hepatitis, but further studies are needed.

CONCLUSIONS

1. Homologous serum jaundice is a disease which must be seriously considered in the operation of a hospital blood bank and in the use of pooled human plasma from any source. In the Peter Bent Brigham and Children's hospitals, over a one year period a minimum estimate is that approximately one in every two hundred plasma or blood transfusions was followed by the disease. If, as is more likely, almost all the infections were the result of the transfusion of pooled plasma, preserved in the frozen state, the minimum incidence was one in every eighty-six plasma transfusions. The criteria for selecting our cases have been presented. Four of these cases were fatal, representing an unexpected late sequel of an original illness from which the patient had apparently recovered.

2. Two methods of control may be immediately instituted in the operation of a blood bank: (1) better detection of possible infective donors by history and physical and laboratory examination, and (2) elimination of the practice of pooling plasma or reduction of the size of pools to a minimum, with limitation of the number of recipients of plasma from each pool as far as possible.

3. Methods of control which may be of value in the future are: (1) the ultraviolet irradiation of plasma or serum; (2) the use of whole blood and the products of plasma fractionation rather than plasma, and (3) the administration of gamma globulin to recipients of plasma or blood.

SUMMARY

1. Eleven cases of hepatitis which was probably due to the prior infusion of human plasma or blood were observed in the course of a year in which 2,443 transfusions of blood and plasma were given.

2. Methods for control of this disease in civilian hospitals include better detection of infectious donors, reduction in the size of plasma pools and elimination of the practice of administering a particular pool to mutiple recipients. The use of whole blood and plasma fractionation products in preference to pooled plasma should be encouraged.

16. Witebsky, E.; Klendshoj, N. C., and Swanson, P.: Preparation and Transfusion of Safe Universal Blood, J. A. M. A. **116**: 2654-2656 (June 14) 1941.
17. Role of Syringes in the Transmission of Jaundice: Memorandum by Medical Officers in the Ministry of Health, Lancet **2**: 116-119, 1945.
18. Oliphant, J. W., and Hollaender, A.: Homologous Serum Jaundice: Experimental Inactivation of Etiologic Agent in Serum by Ultraviolet Irradiation, Pub. Health Rep. **61**: 598-602, 1946.
19. Cohn, E. J.; Oncley, J. L.; Strong, L. E.; Hughes, W. L., Jr., and Armstrong, S. H., Jr.: Chemical, Clinical, and Immunological Studies on the Products of Human Plasma Fractionation: I. The Characterization of the Protein Fractions of Human Plasma, J. Clin. Investigation **23**: 417-433, 1944.
20. Janeway, C. A.: Unpublished data.
21. Enders, J. F.: Chemical, Clinical and Immunological Studies on the Products of Human Plasma Fractionation: X. The Concentration of Certain Antibodies in the Globulin Fractions Derived from Human Blood Plasma, J. Clin. Investigation **23**: 510-531, 1944.
22. Stokes, J., Jr., and Neefe, J. R.: The Prevention and Attenuation of Infectious Hepatitis by Gamma Globulin, J. A. M. A. **127**: 144-146 (Jan. 20) 1945. Grossman, Stewart and Stokes.[15]

ENDOCRINE THERAPY IN CARCINOMA OF THE PROSTATE

Preparation of Patients for Radical Perineal Prostatectomy

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As soon as the efficacy of the endocrine management of carcinoma of the prostate, whether by orchiectomy, the administration of estrogens or a combination of the two had been established by numerous observers, chiefly through the fundamental investigations of Herbst[1] and of Huggins,[2] carefully compiled studies soon became available concerning the extent of regression of the primary neoplasm and its metastases following the various types of therapy. From extensive reviews of statistics to date, as well as from experience gained in treating 200 patients with prostatic cancer at the Brady Urological Institute by the administration of diethylstilbestrol, we have come to expect objective regression of the primary growth in approximately 75 per cent of the cases and of its metastases in approximately 45 per cent.

In our clinic we have found it advantageous to classify cases of prostatic carcinoma into four main groups:

I. Early, in which the malignant process is confined to the gland itself and is therefore admirably suited for radical extirpation.

II. Moderately advanced, in which the growth has spread into the bases of the seminal vesicles, into the apex of the gland, or both.

From the James Buchanan Brady Urological Institute, Johns Hopkins Hospital, Baltimore.
Read before the annual meeting of the American Association of Genito-Urinary Surgeons, Stockbridge, Mass., June 22, 1946.
1. Herbst, W. P.: Estrogen in Carcinoma of the Prostate, J. A. M. A. **124**: 385 (Feb. 5) 1944.
2. Huggins, C.: Summary of Endocrine Effects in Advanced Prostatic Cancer, New York State J. Med. **43**: 519-521 (March 15) 1943; Treatment of Cancer of the Prostate.[3]

III. Advanced, in which, on initial examination, there exists obvious extension throughout the region of the seminal vesicles, inferolateral ligaments and membranous urethra and with fixation of the outer layers of the rectum.

IV. Metastatic: metastases may occur in all three of the aforementioned groups but are, of course, most commonly seen in group III.

During the past three years we have encountered a number of cases in group II which have responded so satisfactorily to diethylstilbestrol therapy that radical surgery subsequently has been undertaken in order to afford these patients the chance of a complete cure. It is with the management of these cases, which may properly be classified as moderately advanced, that this paper is primarily concerned.

THE ACTION OF DIETHYLSTILBESTROL

The mode of action of the endocrines in prostatic cancer is not yet completely understood, nor has the question of diethylstilbestrol therapy versus castration been settled. It is apparent, however, that the actively growing malignant cells require androgen for their viability, and when it is denied them, as after orchiectomy or when it is neutralized, as seems to occur after the administration of diethylstilbestrol, these cells undergo certain changes which can be demonstrated histologically and chemically. As Huggins [3] has stated, "androgen control seriously disturbs the enzyme mosaic of the cancer cells, at least with respect to the important energy-producing protein-catalysts, the phosphatases. As a contribution to the general problem of cancer treatment, it is well to emphasize that any interference with an important enzyme system of a cell, normal or malignant, will cause in that cell a decrease of size and function."

The cytologic changes in the cancer cells following diethylstilbestrol therapy have been intensively studied by Kahle and others.[4] These observers were able to demonstrate definite regressive changes in the nuclear and cytoplasmic material. These changes consist at first of pyknosis of the nuclei and vacuolization of the cytoplasm. Later there occur progressive fragmentation and disappearance of nuclear material, rupture of cell membranes, loss of cellular outline and finally replacement by fibrous stroma, smooth muscle and round cells.

The fact that recrudescence usually occurs after varying lengths of time has been adduced by most observers as evidence that the cancer cells are not actually destroyed but simply remain dormant until becoming reactivated.[5] However, it is common clinically to note that, despite extensive and progressing metastatic manifestations elsewhere during the administration of diethylstilbestrol, the prostate itself remains soft, even atrophic, and in many instances the diagnosis of carcinoma cannot be made by subsequent rectal palpation. Moreover, from a histologic standpoint, as shown by Kahle and others, it would seem that actual cell death had occurred following diethylstilbestrol therapy.[4]

Clinically, after the administration of estrogens one notes in about 75 per cent of the cases a generalized softening of the primary neoplasm associated with a shrinkage in size. These changes are variable, and this variability may be related to the histologic pattern of the tumor, as has been suggested by some, or to the total dosage of estrogen employed. In those patients in whom the carcinoma by rectal palpation is classified as moderately advanced (group II), we have gained the impression from serial examinations during diethylstilbestrol treatment that the earliest signs of regression appear in the periphery of the growth. This has led to the supposition that possibly the marginal cells are more actively growing and therefore show the effects of androgen deprivation more acutely than do those located nearer the center.

Whatever the explanation, the clinical observation has been that, under the influence of diethylstilbestrol, the cancerous process first seems to recede out of the bases of the seminal vesicles and apex of the prostate. This observation has been responsible for our feeling that patients with what has hitherto been considered inoperable prostatic cancer can be given the possible opportunity of cure by radical surgical excision following adequate estrogenic preparation.

THE RADICAL OPERATION

From the insidious nature of the growth of carcinoma of the prostate, it is obvious that early diagnosis is extremely difficult and, in the majority of cases, when the diagnosis is first made the primary neoplasm has extended beyond the capsule into the contiguous structures. The actual percentage of cases deemed suitable for radical surgical removal varies in different clinics. Prince and Vest [6] performed the operation on 9 per cent of patients with prostatic cancer examined at the University of Virginia in a period of two years. In an earlier study [7] it was found that 22.7 per cent of all patients admitted to the Brady Urological Institute between 1937 and 1942 with a diagnosis of carcinoma of the prostate were subjected to radical surgery. The latter percentage is higher than ordinarily would be expected because numerous patients in whom a diagnosis of early carcinoma had been made elsewhere were referred to this clinic in the hope that they could be cured by the radical operation. However small the actual figure, it must be borne in mind that those patients who fulfil the conditions for radical extirpation must not be denied the chance of cure by this method.

It is well to review the clinical criteria for radical surgery in carcinoma of the prostate:

1. On rectal palpation the growth must not extend beyond the capsule into the bases of the seminal vesicles or the region of the membranous urethra. The gland must be freely movable, since fixation indicates spread into the periprostatic tissues.

2. No demonstrable metastases must be present. Acid phosphatase estimates are helpful in many cases but often may remain at normal levels in the presence of extensive metastatic lesions.

3. The patient must be a good surgical risk, and his life expectancy should be reasonable. It is doubtful whether patients in the eighth or ninth decades should

3. Huggins, C.: Treatment of Cancer of the Prostate, Canad. M. A. J. 50: 301-307 (April) 1944

4. Schenken, J. R.; Burns, E. L., and Kahle, P. J.: The Effect of Diethylstilbestrol and Diethylstilbestrol Dipropionate on Carcinoma of the Prostate Gland: II. Cytologic Changes Following Treatment, J. Urol. 48: 99-112 (July) 1942. Kahle, P. J.; Schenken, J. R., and Burns, E. L.: Clinical and Pathological Effects of Diethylstilbestrol and Diethylstilbestrol Propionate on Carcinoma of the Prostate Gland, ibid. 50: 711-732 (Dec.) 1943.

5. Barringer, B. S.: Prostatic Carcinoma, J. Urol. 47: 306-310 (March) 1942.

6. Prince, C. L., and Vest, S. A.: Carcinoma of the Prostate, South. M. J. 36: 680-685 (Oct.) 1943.

7. Colston, J. A. C.: Carcinoma of Prostate: Study of Percentage of Cases Suitable for Radical Operation, J. A. M. A. 122: 781-784 (July 17) 1943.

be submitted to the operation, especially in view of the essentially slow growing characteristics of the tumor in these older persons.

RESULTS

The postoperative results of the radical operation at the Brady Urological Institute have been reviewed in detail in earlier publications.[8] It has been pointed out that the operative mortality ranges between 5 and 6 per cent, a figure which compares very favorably with the results of surgery performed for the cure of cancer elsewhere in the body. In the last series of cases reported there occurred 4 hospital deaths in a total of 73 radical prostatectomies done from 1937 to 1942, a mortality percentage of 5.5. Since 1942 there has been only 1 death directly attributable to operation. There are several reasons for the progressive reduction in mortality since 1904, when Young performed the first radical perineal prostatectomy for cancer. These include better methods of hemostasis, including the liberal use of blood transfusions, as well as chemotherapy and the antibiotics. The use of spinal anesthesia has provided better relaxation of the perineal musculature, thus materially improving the technic and shortening the duration of the operation.

THE PREOPERATIVE ADMINISTRATION OF DIETHYLSTILBESTROL

The preparation of patients for radical perineal prostatectomy by the use of diethylstilbestrol has been recommended before,[9] and Vallett[10] has reported a case in which the radical operation was successfully performed after castration.[10] Hitherto, however, no reports have appeared in the literature where a series of cases so managed has been carefully followed and studied from that standpoint. At the Brady Urological Institute 200 cases of cancer of the prostate have been treated with diethylstilbestrol, in all of which the primary neoplasm was considered too extensive on first examination to justify radical extirpation. The 7 cases reported here were classified as moderately advanced on rectal examination. All were then maintained on diethylstilbestrol therapy for varying periods, during which time serial rectal examinations were performed. The response of each of these patients to the administration of estrogen was so gratifying that it was deemed worth while to perform the radical operation in order to attempt a complete eradication of the disease. In several other patients similar regression occurred, but their general physical condition and life expectancy contraindicated extensive radical procedures.

In the 7 patients submitted to radical prostatectomy, the preoperative dosage of diethylstilbestrol was 1 to 2 mg. per day. No essential difference in the rapidity or degree of regression of the primary neoplasm has been noted with larger doses. The use of diethylstilbestrol in the dosage recommended has not been attended by untoward symptoms, save for slight swelling and tenderness of the nipples, and, as the growth has receded very satisfactorily on this dosage, larger amounts have not been employed.

8. Young, H. H.: The Cure of Cancer of the Prostate by Radical Perineal Prostatectomy, J. Urol. **53**: 188-252 (Jan.) 1945. Colston, J. A. C.: Surgical Removal of Cancer of the Prostate Gland: Radical Operation, J. A. M. A. **127**: 69-72 (Jan. 13) 1945.

9. Colston, J. A. C., in discussion on papers by Huggins and McDonald, Rathbun and Nesbit and others, Tr. Am. A. Genito-Urin. Surg. **37**: 235-236, 1944. Barlow, A. L.: Advanced Cancer of Prostate: Consideration of Value of Radical Prostatectomy in Selected Cases, New York State J. Med. **45**: 383-386 (Feb. 15) 1945.

10. Vallett, B. S.: Radical Perineal Prostatectomy Subsequent to Bilateral Orchiectomy, Delaware M. J. **16**: 19-20 (Feb.) 1944.

REPORT OF CASES

Case 1.—J. E. A., a white man aged 68, first examined Nov. 9, 1943, presented increased urinary difficulty, moderate frequency and nocturia one to four times of one year's duration. He gave no history of back or perineal pain or apparent weight loss. He had been examined elsewhere six weeks previously, at which time a small, hard, oval nodule had been discovered in the right lobe of the prostate. He had therefore been referred here for possible radical perineal prostatectomy.

Physical examination revealed that the patient was in good condition. The penis showed moderately advanced induration of the corpora cavernosa (Peyronie's disease). The scrotal contents were normal. On rectal examination the prostate was slightly broader than normal. Both lateral lobes were irregular and contained areas of stony hard induration, more pronounced on the right. There was evidence of extension to the apex of the prostate and region of the membranous urethra. Both seminal vesicles were palpable but not indurated. There was no x-ray evidence of bony metastases. The acid phosphatase was normal.

Because of the extension of the disease toward the apex, the condition was considered unfavorable for radical cure at that time. Therefore the patient was begun on diethylstilbestrol 1 mg. per day and maintained on this regimen for almost seven months. During this time serial rectal examinations showed progressive shrinkage and softening of the neoplasm.

On May 27, 1944 the patient was readmitted and prepared for operation. Laboratory studies showed hemoglobin 96, white blood cells 6,100, phenolsulfonphthalein excretion 65 per cent in two hours. The urine was normal except for an occasional white blood cell; culture was sterile.

May 29 a radical perineal prostatectomy was carried out, followed by an uneventful convalescence.

Pathologic studies showed adenocarcinoma of the prostate and involvement of the bases of both seminal vesicles.

The patient was discharged from the hospital on the twenty-ninth postoperative day, voiding a good stream with perfect control. On the last visit, one year after operation, the patient was found to be in good general condition with no evidence of local recurrence or distant metastases. He was passing a stream of good caliber and force.

Case 2.—K. H. B., a white man aged 59, first seen Feb. 3, 1944, came here after a diagnosis of carcinoma of the prostate had been made elsewhere and orchiectomy advised. There was no history of urinary symptoms, weight loss or pain. Previous x-ray studies had been negative for metastases, and acid phosphatase was normal.

On examination the patient was found to be in good condition. The external genitalia were negative. The prostate was slightly broader than normal, fixed, irregular and stony hard throughout. There was evident extension into the apex as well as into the bases of both seminal vesicles.

Radical extirpation was thought to be contraindicated at that time, and the patient was placed on diethylstilbestrol 2 mg. per day. This was maintained for approximately two months. During this time serial rectal examinations demonstrated such satisfactory regression of the carcinomatous process that it was thought advisable to carry out radical perineal prostatectomy. Laboratory studies showed hemoglobin 13.3 Gm., white blood cells 5,600, blood urea 20 mg., phenolsulfonphthalein excretion 75 per cent in two hours. The urine was normal; culture was negative.

April 12, 1944 radical perineal prostatectomy was done. Convalescence was uneventful except for one febrile rise after passage of a sound. The patient was discharged twenty-three days after operation, voiding well and with good control.

Pathologic sections showed extensive adenocarcinoma of the prostate with involvement of the bases of both seminal vesicles.

Four days after leaving the hospital the patient had acute urinary retention and was treated elsewhere for a stricture at the site of anastomosis. A suprapubic cystostomy was done and a urethral catheter left in place. The tube was removed five days later, and the patient was able to void satisfactorily. At the present time the voided stream is free and urinary control

satisfactory. The patient has now resumed full activity. He frequently plays eighteen holes of golf a day and experiences no urinary leakage whatever. However, at the end of an especially strenuous day, the patient occasionally notices slight dribbling.

CASE 3.—Dr. W. N. F., a white man aged 61, a physician, was first examined at the Brady Urological Institute Feb. 11, 1944. In the course of a general physical examination elsewhere the prostate was observed to be hard and irregular. The patient was followed periodically for several months. A bilateral orchiectomy was advised and, on the suggestion of a colleague, he came to the Brady Urological Institute. No nocturia was noticed at any time, and only slight hesitancy. There was no history of pain or weight loss. The patient had a long history of alcohol addiction.

On physical examination the patient was in good general condition. The external genitalia were normal. There was a small, reducible hernia present at the right external ring. Rectal palpation showed the prostate to be moderately broader than normal. It was irregular, indurated and stony hard throughout. The right lobe was especially prominent. The induration had extended into the apex of the prostate and up into the bases of both seminal vesicles. There was no x-ray evidence of metastases. Acid phosphatase studies were normal.

Although the growth had not spread beyond the confines of the capsule, it was thought to be too extensive at that time to insure a complete cure by radical operation. For this reason diethylstilbestrol 2 mg. a day was advised. Rectal examination six weeks later revealed definite regression of the neoplasm both in size and in degree of induration.

The patient was readmitted March 28 and prepared for radical operation. Laboratory studies revealed hemoglobin 12 Gm., white blood cells 5,200, blood urea 20 mg. per hundred cubic centimeters, phenolsulfonphthalein excretion 82 per cent in two hours. The urine was normal; cultures were sterile.

On April 1 a radical perineal prostatectomy was carried out followed by a completely uneventful convalescence except for slight leakage after removal of the urethral catheter on the fourteenth postoperative day. The patient left the hospital nineteen days after operation, voiding well and with good control.

Pathologic studies showed extensive adenocarcinoma of the prostate involving the bases of both seminal vesicles.

Two months later symptoms of urinary difficulty developed, and he required several efforts to empty his bladder. Urinary control, however, was excellent.

He was reexamined July 11. No evidence of local recurrence or distant metastasis was found. However, a stricture had developed at the site of the anastomosis. The residual urine was 30 cc. The patient therefore was readmitted to the hospital and the stricture dilated under spinal anesthesia. He was discharged after several days, voiding an excellent stream and with normal control.

CASE 4.—C. E. H., a white man aged 60, first examined at the Brady Urological Institute on March 24, 1944, was referred by his physician, who had followed him for about one year because of increased urinary difficulty and hesitancy as well as an enlarged, rather hard prostate. There had been no history of back or perineal pain and no weight loss.

On physical examination the patient seemed to be in good general condition. The external genitalia were normal. On rectal examination the prostate was moderately broader than normal and especially prominent on the right side. The right lobe was of stony hard induration, especially toward its outer edge and well down toward the apex. The left lobe was firm but not of third degree. The seminal vesicles were thickened but not involved. The growth had apparently extended beyond the capsule on the right side, and particularly into the membranous urethra. Residual urine was 85 cc. There was no x-ray evidence of metastases.

Radical operation was thought to be unjustified because of the extent of the malignant process. The patient therefore was started on diethylstilbestrol 1 mg. per day. He was seen again one month later, at which time he was voiding with considerably less difficulty. Definite regression of the neoplasm had occurred. Diethylstilbestrol was continued another month, and at the end of that time on rectal examination it was difficult to detect any areas of stony hardness or make a gross diagnosis of carcinoma.

The patient was readmitted May 23, 1944 and prepared for radical perineal prostatectomy. Laboratory studies disclosed hemoglobin 100, white blood cells 8,500, blood urea 28 mg. per hundred cubic centimeters, phenolsulfonphthalein excretion 85 per cent in two hours. The urine contained a trace of albumin and 4 to 5 white blood cells. May 24 radical perineal prostatectomy was carried out and followed by an uneventful convalescence. The urethral catheter was removed on the fourteenth postoperative day. The patient voided an excellent stream and remained dry perineally. Pathologic studies showed carcinoma of the prostate not involving the seminal vesicles. It was predominantly adenocarcinoma in type, with a multiplicity of form and showing diethylstilbestrol changes. The patient was discharged nineteen days after operation, voiding well and with good control.

After returning home he did well for about fourteen months. At that time he noticed some diminution in the size and force

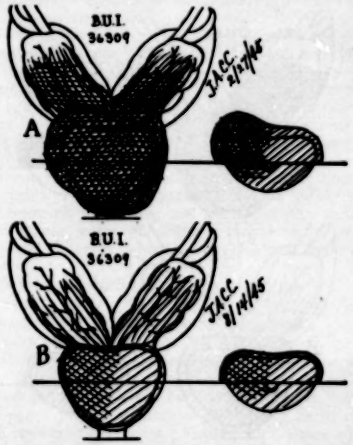

Fig. 1 (case 5).—*A*, diagrammatic representation of rectal findings on initial examination. *B*, six months after institution of diethylstilbestrol.

of the stream. He was reexamined Sept. 6, 1945 and found to be in excellent general condition. There was no evidence of local return of the cancer or distant metastases. A soft stricture at the site of the anastomosis was easily dilated, following which the patient developed acute retention. He was hospitalized twenty-four hours and discharged voiding easily with normal control.

CASE 5.—M. W., a white man aged 68, was first examined at the Brady Urological Institute Feb. 27, 1945. For the preceding year he had suffered from vague gastrointestinal symptoms manifested chiefly by gaseous distention. His local physician had discovered a suggestive nodule in the prostate and referred him to a urologist, who diagnosed carcinoma of the prostate but considered the process too extensive for radical operation. The patient was referred to this clinic. He had no history of any urinary symptoms whatever. Rectal examination disclosed the prostate to be considerably broader than normal. The left lobe was nodular and of stony hard induration, and there was nodularity of the right lobe, which also was stony hard but not quite so prominent as the left. The bases of both seminal vesicles were invaded, particularly on the left (fig. 1 *A*). There was no x-ray evidence of bony metastases. The serum acid phosphatase studies were normal.

The initial impression was that the growth was too extensive for radical operation. Diethylstilbestrol 1 mg. a day was started. When seen six months later a most remarkable change in the palpatory findings had occurred. The gland was only slightly broader and was more prominent than normal. No nodules were present, and the elevation on the left side had disappeared. The entire gland was elastic and compressible and not adherent. The vesicles and the base of the bladder above the gland were quite soft (fig. 1 *B*). Another x-ray again demonstrated no evidence of metastases.

The patient was readmitted Aug. 15, 1945 and prepared for radical perineal prostatectomy. All laboratory findings were negative. August 17, radical perineal prostatectomy was performed. The convalescence was smooth. The urethral catheter was removed the eleventh postoperative day, following which all urine drained by way of the perineum until reinsertion of the catheter on the seventeenth postoperative day. The catheter was finally removed the twenty-second day, after which the perineum remained completely dry. For the first three days the patient was almost totally incontinent, but at the end of that time he regained control gradually, so that when he was discharged

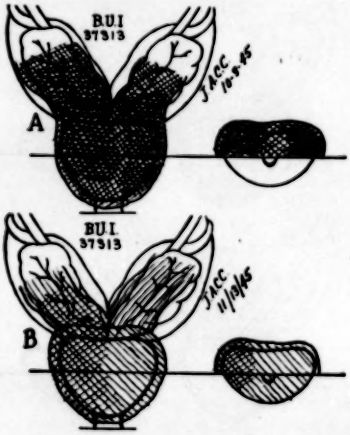

Fig. 2 (case 7).—*A*, diagrammatic representation of rectal findings on initial examination. *B*, six weeks after institution of diethylstilbestrol.

on the twenty-sixth postoperative day he was voiding a normal stream with excellent control.

Pathologic studies showed adenocarcinoma of the prostate involving the bases of both vesicles, chiefly the left, with scattered areas of diethylstilbestrol change.

The patient has not been seen since, but a letter from him one month after operation stated that he was in excellent health and voiding satisfactorily.

Case 6.—E. R., a white man aged 62, first seen March 1, 1945, had a history of onset of urinary difficulty and frequency one year prior to the first examination. Six months before examination he had been seen elsewhere and had been treated periodically by urethral sounds and posterior urethral irrigations.

The patient was in good general condition. The external genitalia were normal. On rectal palpation there was evidence of third degree induration and nodularity throughout the prostate, but chiefly on the right side, with infiltration of the perirectal tissues over an area 1.5 cm. in diameter on the right side. Except for this the carcinomatous process seemed to be confined within the capsule of the prostate. There was no x-ray evidence of metastases. No serum acid phosphatase studies were obtained. The patient was placed on diethylstilbestrol 2 mg. per day. On this medication he developed some tenderness and soreness of the nipples, but there was some lessening in frequency and nocturia. The stream was perhaps slightly better. He was again examined May 31, 1945, at which time the prostate felt distinctly smaller. The left lobe was slightly larger than normal, smooth and elastic throughout, and of second degree induration. In the lower portion of the left seminal vesicle there was induration, but the remainder felt soft. The membranous urethra was uninvolved, and the rectal mucosa smooth.

The patient was admitted to the hospital June 2, 1945. General physical examination was essentially negative. Preoperative laboratory studies included hemoglobin 13, 7 Gm.; white blood cells 13,550, blood urea 20 mg. per hundred cubic centimeters, phenolsulfonphthalein excretion 75 per cent in two hours. Urine was normal.

On June 11 radical perineal prostatectomy was carried out. At operation there was obvious extension into the tip of the right seminal vesicle and laterally to the pelvic wall on the right side. After removal of the prostate and seminal vesicles there apparently still remained some neoplastic tissue on the right side. Postoperatively the patient had a smooth convalescence. The urethral catheter was removed on the fourteenth postoperative day, following which the patient voided an excellent stream with good control. On the sixteenth postoperative day he suddenly developed a left hemiparesis, which manifested itself as a seventh nerve palsy and decided motor loss of the left arm and leg. This cleared rapidly after about two weeks and was considered to have originated on an angiospastic basis. The patient was discharged on the thirty-fifth postoperative day, voiding satisfactorily with excellent urinary control.

Pathologic studies showed adenocarcinoma of the prostate with considerable anaplasia and with some diversity of the histologic pattern.

The patient was seen three weeks after leaving the hospital. A soft stricture at the site of the anastomosis was easily dilated. He was again seen after another three weeks period and found to be voiding a good stream with normal control. The patient died in May 1946. His physician said that he could feel some evidence of malignancy on rectal examination.

Case 7.—Dr. W. T. B., a white man aged 70, a physician, was admitted to the Brady Urological Institute Oct. 3, 1945 complaining of nocturia and burning on urination for approximately three to four years. He had been referred by his own physician, who had discovered a hard nodule in the prostate on rectal examination.

On physical examination the patient seemed to be in excellent general condition. The external genitalia were entirely normal. On rectal examination the prostate was somewhat broader than normal. Both lateral lobes were irregular and stony hard throughout, with the induration extending into both seminal vesicles, particularly on the left side (fig. 1 *A*). Laboratory studies revealed hemoglobin 14 Gm., white blood cells 9,600, blood urea 20 mg., phenolsulfonphthalein excretion 73 per cent in two hours. The urine contained 8 to 10 white blood cells per high power field; cultures were sterile. There was no x-ray evidence of bony metastases.

It was believed that, although this could be classed as a moderately advanced carcinoma of the prostate which had extended into both seminal vesicles, the radical operation should be deferred in the hope that following a course of diethylstilbestrol, the growth would regress sufficiently to permit an easier operative procedure and insure a better functional result. The patient was discharged and placed on diethylstilbestrol 2 mg. per day.

He was readmitted to the Brady Urological Institute for the second time on Nov. 13, 1945. Rectal examination disclosed the prostate to be only slightly broader than normal. The right lobe was smooth and firm but elastic and compressible throughout. The left lobe contained no evidence of stony hardness and was also smooth and compressible (fig. 2 *B*). There had been a very definite and gratifying response to diethylstilbestrol therapy. It was decided that the patient was now suitable for radical operation. Preliminary laboratory studies revealed hemoglobin 14.2 mg., white blood cells 8,700, blood urea 20 mg. per hundred cubic centimeters. The voided urine contained 4 to 6 white blood cells per high power field.

Nov. 14, 1945, radical perineal prostatectomy was carried out. The postoperative course was entirely uneventful. The urethral catheter was removed the twelfth postoperative day, following which the patient voided a good stream with excellent control. The patient was discharged sixteen days after operation, to be followed by his own physician.

Pathologic studies showed adenocarcinoma of the prostate, fairly well differentiated, with involvement of both seminal vesicles.

Several weeks after leaving the hospital the patient developed acute retention and was seen by a urologist elsewhere who, after several dilations, performed a transurethral resection. Following this procedure the patient became totally incontinent, but this condition has gradually improved, so that he now has no nocturnal leakage but has to wear a clamp during his surgical activities, which he has resumed.

SUMMARY

Endocrine therapy in the treatment of carcinoma of the prostate, either by the administration of estrogen or by orchiectomy or by a combination of the two, has been proved by many competent observers to have a definite and most valuable place in the treatment of carcinoma of the prostate. Regression of the primary growth, as measured by rectal examination, has been noted to occur in approximately 75 per cent of the cases, and regression of metastases in 45 per cent. It has been postulated that this inhibitive effect results from an interference with the enzyme balance by endocrine therapy, and probably this effect is more pronounced on the younger, actively growing cells of the tumor, which are more dependent on androgen for their metastases. In spite of the intensive laboratory studies and many clinical observations that have been made on endocrine therapy of carcinoma of the prostate, no case has yet been reported in which complete disappearance or clinical cure has been obtained by endocrine therapy alone. From the results of experimental laboratory work and clinical research, it would appear at present that a permanent cure with endocrine therapy of carcinoma of the prostate cannot be obtained.

The regression of the prostatic growth which occurs in an appreciable percentage of cases under endocrine therapy has led us to follow a series of 7 cases in which on first examination the growth was considered too far advanced for complete extirpation by radical operation. In these 7 cases it was considered that the regression of the neoplasm as far as could be judged by rectal palpation had progressed to a sufficient degree to permit the radical operation which was successfully carried out in these cases. There has been no operative mortality in this series, but 2 patients have developed complications resulting from stricture formation at the site of the anastomosis. One patient has died of recurrence and metastases one year after operation.

The patients in this series have all been operated on within the last two years, so that the presentation is in no sense intended as a study of ultimate mortality.

It is our impression that endocrine therapy for the preparation of patients to undergo the radical operation is of the utmost value in that:

1. We have observed numerous cases of moderately advanced carcinoma of the prostate in which orchiectomy or transurethral resection has been advised in the belief that the disease was too far advanced for radical extirpation.

2. Regression of the growth, which usually occurs, materially facilitates the operative technic in moderately advanced cases.

3. It is our hope that five year cures will be obtained in some of the cases in which on physical examination the observer's opinion was that the prognosis for radical cure was unfavorable.

In view of the regression of the primary growth which usually occurs in cancer of the prostate following endocrine therapy and which is attributed to death of at least some of the malignant cells, presumably at the periphery of the lesion, it would seem advisable to institute endocrine therapy in all cases of carcinoma of the prostate, even those which fulfil the criteria for the radical operation.

ORTHOPEDIC CAUSES OF PELVIC PAIN

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This paper presents the problem of pelvic pain in a deliberately simplified form. My purpose is to show that measurements of pelvic mobility are essential to an accurate diagnosis.

The fundamental structure of the pelvis consists of bones, muscles and joints. The massive ring formed by the two innominate bones and the sacrum gives origin and insertion to the most powerful muscles in the body; muscles that go far afield for attachment to other bones. The intrapelvic sacroiliac joints and symphysis pubis allow the bony ring to change its shape. The extrapelvic hip joints, sacrolumbar and sacrococcygeal joints allow motion of other bones on the pelvic ring. The ligaments of the pelvic joints are tremendously strong and are elaborately arranged in all planes, so that the slightest change in the position or shape of the pelvic ring alters the total ligamentous tension.

Flexion and extension are the normal motions of the intrapelvic joints (fig. 1). The sacrum may flex or extend on the ilia at the sacroiliac joints. The axis of sacral motion is a horizontal, transverse line that passes through the ligamentous portions of the sacroiliac joints and the body of the second sacral vertebra. Sacral flexion increases the lumbar lordosis, narrows the pelvic inlet and enlarges the outlet: sacral extension reverses the process. Furthermore, either innominate bone may flex or extend on the other at the symphysis pubis. The axis of innominate motion is a horizontal, transverse line that passes through the center of the symphysis. Innominate flexion by elevating the ilium produces lateral tilting of the sacrum and by carrying the ilium forward produces rotation of the sacrum toward the opposite side: innominate extension reverses the process. Abnormal motion may occur when the symphysis pubis is relaxed or torn, allowing a small amount of opposed flexion and extension of the innominate bones at the hip joints. Abnormal motion appears in appropriate roentgenograms as a vertical shift at the symphysis pubis.[1]

The curve of intrapelvic mobility is high at birth, goes down slightly during childhood and rises to a peak at puberty. During adult life the curve gradually descends, and it remains at a low level during old age. Age and other factors, such as training and build, influence articular mobility in general, but the action

Read in a symposium on "Pelvic Pain" before the joint meeting of the Section on Obstetrics and Gynecology and the Section on General Practice of Medicine at the Ninety-Fifth Annual Session of the American Medical Association, San Francisco, July 5, 1946.

1. Chamberlin, W. E.: The Symphysis Pubis in the Roentgen Examination of the Sacro-Iliac Joint, Am. J. Roentgenol. 24:621, 1930.

of the female sex hormones on the intrapelvic joints is more specific. The puberty peak is higher in women than in men, and the subsequent descent is more gradual. There is a minor peak before each menstrual period, and the peak at parturition is approximately twice the height of the puberty peak. The return to normal mobility after delivery parallels the curve of uterine involution. The flexion-extension range of the innominate bone varies between 2 and 30 degrees. The average range in young, adult males is 5.5 degrees.

The intrapelvic joints have three functions: stability in weight-bearing; mobility in child-bearing and the reflex maintenance of balance. Stability is the most important of the three, and complete bony ankylosis of the intrapelvic joints affords a good illustration. In ankylosis stability is maximal, mobility is nil and the intrapelvic joint sense of position and movement is lost. Yet if fusion has occurred in normal alignment there may be no interference with parturition or balance. The function of mobility is relatively unimportant, even in a difficult delivery, but excessive mobility is a handicap because it interferes with stability and balance.

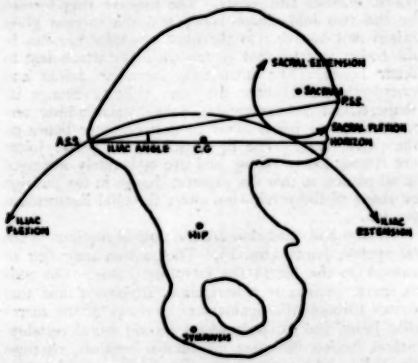

Fig. 1.—Centers of gravity and pelvic motion. A. S. S. and P. S. S., anterior and posterior superior spine; C. G., center of gravity.

Aching joints and clumsiness are commonly found in pregnancy and adolescence as the results of excessive mobility. The part played by the intrapelvic joints in the reflex maintenance of balance is extremely important, as long as the joints are movable. When motion ceases, as in ankylosis, the function of balance passes on to adjacent structures.

All movements of the body in equilibrium revolve about the center of gravity. This point normally lies at the center of the pelvis, just below the promontory of the sacrum. Any shift of the center of gravity tends to change the shape of the pelvic ring. Thus, the intrapelvic joints are the first to be affected by a disturbance of equilibrium. Motion of the joints produces a change in the tension of the pelvic ligaments from which streams of proprioceptive impulses arise. The impulses travel in every spinal nerve from the first lumbar to the fourth sacral and provoke a widespread reflex response. When the weight of the body is supported on the feet, a shift of the center of gravity in any direction produces a protective reflex movement of the pelvis in the opposite direction that tends to return the center of gravity to its normal position.

One of the functions of a ligament is to initiate self-protective reflexes that preserve it from excessive tension. For example, the average person has slipped and turned an ankle many a time, but the protective reflex usually bounced the ankle back before a ligament was sprained. Such a reflex always tends to relax the ligament, regardless of the type of the initial stimulus, be it tension, trauma, inflammation or whatever. Thus, when a pelvic ligament is insulted, it evokes a powerful protective reflex that tends to relieve it of weight-bearing. It has been seen that such a reflex moves the pelvis away from the center of gravity, and if the insult persists the continuing muscle spasm tends to maintain the abnormal pelvic position. The ability of the pelvic reflexes to return the center of gravity to its normal position without the intervention of more distant, and consequently less efficient, reflexes is a determining factor in normal posture. If the pelvic reflexes are not competent to maintain equilibrium, the function is passed along to the spine and lower extremities. Scoliosis and other postural defects are produced. Later results of the imbalance are spreading reflexes, disturbed function in other joints, atrophies and contractures.

Under certain circumstances a powerful protective reflex may be initiated by a stimulus so weak that it causes no alarm in consciousness. Under other circumstances an equally weak stimulus may be so facilitated in the central nervous system that it appears in consciousness as pain. Somewhere between the two extremes lies the normal condition, in which a stimulus, to cause pain, must be sufficiently intense to threaten the integrity of structure or function. Disturbances of pelvic structure and function usually are immediately painful, but the reflex protection is so powerful that the full extent of the damage may not be appreciated for years. The typical story is, "I had a twinge of pain right here (pointing), but I didn't pay much attention to it. The next morning, I had pain all over here (rubbing), and I couldn't get out of bed." Thus it is apparent that the first pain tends to be sharply localized, but so evanescent that it often is forgotten. Later pain is more diffuse, dull and aching in character. If the affected structure receives only a few sensory fibers from a spinal nerve, the painful stimulus also may be referred in consciousness to the major sensory distribution of the nerve. The typical story is, "I thought some one had stuck a knife in my back, and I looked around to see who hit me. It shot down my leg like a streak of lightning on a red hot wire, and now the whole back of the leg kind of aches." Here again, the original twinge is well localized and the original reference is sharply delimited, but the subsequent referred pain is diffuse.

Referred pain typically originates in structures that receive little or no sensory supply from the spinal nerves. This type of structure includes most of the denser connective tissues, such as scars, fascias, ligaments and joint capsules, as well as blood vessels and viscera. The injection of a few drops of a 6 per cent solution of sodium chloride into such a structure produces a harmless but temporarily painful sensory stimulus. The method is useful in mapping out areas of referred pain. In general, when the afferent impulse travels in a single spinal nerve any referred pain tends to appear in the corresponding dermatome, or major sensory distribution of the nerve. Therefore, in theory, a pain referred to dermatome x should infallibly reflect a disturbance in ligament y or in joint z, if y and z are

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the only structures entirely supplied by sensory fibers from nerve x. The theory seldom works, for several reasons. A quantitative increase in the painful stimulus, such as the injection of more than a few drops of the hypertonic solution, may cause the afferent impulses to spread within the spinal cord. Thus, a pain referred to the posterior division of a spinal nerve may gradually spread to the anterior division or to adjacent segments. The dermatomes may be so small and so crowded together as to be practically indistinguishable, a condition that occurs in the buttocks and sacral region. A structure that is supplied by several nerves may refer pain to several small dermatomes without producing a specific pattern. Finally, pelvic pain may arise in a wide variety of structures, in the trunk, in the pelvis or in the lower extremities, all of which refer pain to the same area. Consequently the pain itself is of little value in differential diagnosis, unless it involves extrapelvic areas in which the dermatomes are more discrete.

The pelvic pain that regularly accompanies physiologic relaxation of the female pelvis is so common that many women accept it as being unavoidable. Measurements of intrapelvic mobility in men who complain of pelvic pain from all causes show that the average amount of motion is one-third higher than normal. It follows that relaxation of the intrapelvic joints is the commonest cause of pelvic pain. Other common causes appear in the following list, from which disturbances of the nervous system, blood vessels and viscera have been omitted.

1. Disturbances in the function of the pelvic joints, muscles and ligaments, such as strains, sprains, sacroiliac slips and symphysial subluxations.

2. Disturbances in the function of the lumbar joints, muscles and ligaments, such as strains, sprains and zygapophysial subluxations.

3. Structural changes in the pelvis and lumbar spine, such as those produced by congenital defects, fractures, degeneration of intervertebral disks, arthritis, suppurative diseases and neoplasms.

4. Disturbances in the structure and function of the lower extremities, such as flatfeet.

In the physical examination of patients who complain of pelvic pain, areas of tenderness frequently are found in the joints, muscles, fascias and ligaments of the trunk and lower extremities. When pressure on such an area produces or aggravates the referred pain, an injection of procaine hydrochloride into the point of maximum tenderness is indicated. If the injection relieves the pain, one may assume that the site of origin has been found. Unfortunately, many of the pelvic and spinal structures are not readily accessible to palpation or injection, and a determination of function is necessary. If the suspected structure is a muscle, fascia or ligament, it should be put under tension in an endeavor to reproduce the pain. Many special tests have been devised for this purpose, such as straight leg raising and prone knee flexion. If a joint is suspected, it should be carried through its full range of motion; the motion should be measured, and the measurement should be compared with that of the normal joint. Any pain, crepitus or adventitious sound produced in the course of the examination should be noted. Without an examination of this sort, an accurate estimate of articular function is almost impossible. The procedure is standard elsewhere in the body, but hardly any one, except an orthopedic surgeon, applies it to the intrapelvic joints.

To the best of my knowledge, the medical literature contains only one description of a method for measuring flexion and extension of the innominate bones.[2] In this method the production of motion is accomplished by inserting a 1½ inch (4 cm.) lift under one of the subject's feet, meanwhile instructing him to keep both knees straight and both heels down to eliminate compensation in the lower extremities. The lift produces a shift in the center of gravity that cannot be completely compensated by the pelvic reflexes alone. Therefore the full extent of intrapelvic compensation is achieved before the spinal reflexes are called on to preserve equilibrium. In other words, the intrapelvic joints are carried to one extreme of allowable motion, the innominate bone on the lower side flexing and that on the higher side extending. The production of motion is entirely reflex and does not depend on the subject's volition. Measurements are taken with an inclinometer (fig. 2) to determine the angle of iliac inclination on each side. This angle is

Fig. 2.—An inclinometer.

defined as the angle formed by the plane of the floor and the projection of a straight line that passes through the anterior-superior and posterior-superior spines of an ilium. Innominate flexion increases the angle and extension decreases it (fig. 1). When the reading for each ilium has been taken, similar measurements are taken with the lift under the other foot. The difference between the two readings on each side represents the complete flexion-extension range of each innominate bone.[3] The entire procedure is simple, brief and applicable to any patient who can stand erect without support.

Structural changes in bones and joints usually appear in roentgenograms, but many functional changes do not. Symphysial and zygapophysial subluxations are demonstrable on routine films, but the technic of visualizing sacroiliac slips is slow and expensive, as compared with clinical measurements. One case in particular will serve to illustrate the need for inclinometric measure-

2. Pitkin, H. C., and Pheasant, H. C.: Sacrarthrogenetic Telalgia: II. A Study of Sacral Mobility, J. Bone & Joint Surg., 18:365, 1936.

3. Provided, of course, that any simultaneous flexion or extension of the innominate bones at the hip joints must be subtracted from the result.

ments. When a sacroiliac slip locks the two bones in flexion, the stability of the joint is usually increased and there may be little alteration in the ligamentous tension. Consequently the symptoms may be so mild that the incident is soon forgotten, but the structural imbalance remains. The function of balance passes to the opposite joint, which gradually acquires compensatory relaxation and increased mobility. If the slip occurs in childhood and is not promptly corrected, a structural scoliosis may develop as the child grows. Furthermore, when symptoms of strain begin to appear the pain is often related to the movable joint, and the slip may be entirely overlooked. In this case an error in diagnosis may lead to a permanent deformity, but in every case of pelvic pain an accurate estimate of pelvic function is essential to an accurate diagnosis. An inclinometer is the instrument of choice for quickly determining that the intrapelvic joints are locked, are relaxed or are functioning normally.

SUMMARY

Pelvic pain may arise from disturbances in the structure and function of the bones, joints, muscles, ligaments and fascias of the trunk, pelvis and lower extremities. (Disturbances of the nervous system, blood vessels and viscera are not discussed.) The relaxation of the pelvic joints that precedes menstruation and accompanies pregnancy is the commonest cause of pelvic pain. A clinical method for measuring the motion of the intrapelvic joints is presented, with the conclusion that an accurate estimate of pelvic mobility is essenial to an accurate diagnosis.

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ABSTRACT OF DISCUSSION

Dr. C. Frederic Fluhmann, San Francisco: Dr. Pitkin has given a splendid, simplified analysis of orthopedic causes of backache, a symptom of frequent occurrence in obstetric and gynecologic patients. As he pointed out, backache is an exceedingly frequent observation during pregnancy and also in women just before, during and occasionally just after menstruation. This is due to a preternatural mobility of the pelvic joints, and there is good reason to believe that it is an endocrine disturbance. Hisaw years ago showed that the injection of a corpus luteum extract produced an extensive relaxation and separation of the pelvic joints of guinea pigs. When one discusses backache in gynecologic patients, one subject always comes up, and that is the role that retroversion of the uterus plays in the causation of backache. As the years have gone by, it has become apparent that in an uncomplicated retroversion backache is seldom the result of that lesion. In most institutions there has been an extensive diminution in the number of plastic operations, but one must face the fact that in the country at large there are still far too many suspensions of the uterus being performed for backache and unjustifiable indications. Backache accompanies many lesions of the pelvis, for example, certain types of fibromyomas, endometriomas and pelvic inflammatory disease. However, I should like to call attention to an ailment which produces pain in the lower part of the abdomen and in the back and is due to a low grade inflammatory condition of the parametrium. Its chief anatomic feature is a decided thickening and tenderness of the sacrouterine ligaments. This may easily be missed on vaginal examination but is readily demonstrated by a rectovaginal examination.

Dr. J. W. Davies, New York: The treatment of pelvic pain requires a broad comprehension to properly evaluate its source. It has been shown how important the well trained general practitioner is in properly evaluating the cause of pain. It is he who should refer the patient to the proper specialist for specific treatment. The psychiatrist has had satisfactory results in treating some cases of pelvic pain. The urologist and the orthopedist have frequently relieved pain after the gynecologist has been unable to do so. Each specialist is sincere, but because of overspecialization the comprehension of the case is frequently narrowed. Meetings such as this tend to increase one's perspective by suggesting that there may be a single factor common to all the specialties which may be of aid in treatment. One important cause of pain is the layer of tissue which lies superficial to the peritoneum. This layer is erroneously called the subperitoneal tissue, and because of the misnomer insufficient attention has been directed toward its study. This preperitoneal tissue envelops the kidney, ureter, bladder and the urethra, also the uterus, cervix and the vagina. The rectum likewise is encapsulated by this tissue, which permits independent gliding of the various systems. If there is an abnormal slipping of an abdominal or pelvic organ traction may be deflected to another, more sensitive, organ, which may cause pain even though it is not primarily at fault. The enveloping preperitoneal tissue runs to the lateral pelvic wall, and it is possible to trace the fibrous portion through the sacroiliac joint into the dimple of the subcutaneous tissue of the back. A slipping of the sacrum on the ileum, such as Dr. Pitkin has demonstrated, may cause traction on the preperitoneal tissue and thereby angulate or compress pelvic nerves. If the pain is referred down the leg its treatment is relatively simple, but if pain is referred to a pelvic organ it is more difficult for the patient to choose the specialist to be consulted. During menstruation the various joints become relaxed, and it is this relaxation of the joints which may cause sacroiliac hypermobility and the resultant menstrual backache. Pelvic congestion may angulate pelvic nerves and cause direct or referred pain. Infections of the urethra, cervix and uterus are drained by the pelvic lymphatic vessels, which are in the preperitoneal tissue. The diseased lymphatics may angulate the ureter or set up a secondary neuritis in the adjacent nerves.

Dr. Douglas Campbell, San Francisco: Recent investigations have shown that the two types of pain which are experienced—superficial or "bright" and deep "dull" or aching—arise from dermatomic and mesodermal tissues respectively. The dermatomic variety is rather easily localized; the mesodermal is diffuse, follows the myotomes or sclerotomes and consequently may be referred a considerable distance. Furthermore, pain arising from viscera or skeletal structures is frequently indistinguishable, so that a lesion of the back may be perceived as intra-abdominal or a diseased pelvic viscus may give rise to pain in the back. Neurologically, all varieties of pain are initiated by similar receptors, but deep pain traverses smaller fibers; reaching the cord and brain stem the impulses ascend spinothalamic pathways to the thalamus, whence they are relayed to appropriate cortical regions for appraisal and localization or to hypothalamic and lower reticular stations for autonomic and other reflex purposes. Pain impulses, in particular those of visceral or skeletal origin, are also stepped up in intensity and radiated to neighboring or remote structures through closed and open circuiting in the internuncial pools of neurones in the cord, stem and higher forebrain levels. Because of augmentation by the reverberating activities of internuncial pools and the autonomic functions of the diencephalon, prolonged protective spasm of neighboring muscles and reactions of the viscera occur. The autonomic features may lead to disturbances of personality, such as depression, irritability, loss of libido and anorexia with its consequences of malnutrition. Protective muscular spasm gives rise to more pain and increased autonomic disturbances. Vicious circles are thus established, the intensity and variation of which will depend to a great extent on the neuropsychic makeup of the patient. Some persons are more stable; others, who have lower pain thresholds or a neurotic disposition, are less stable and likely to over-react to even slight lesions of pain-sensitive structures. In persons of this latter group there frequently develops overtense musculature, particularly of the lower part of the back, due to anxious feelings about menstruation or other matters which concern their sexual life, and this, augmented usually by faulty posture

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and malnutrition, may lead to the perception of pain or at least discomfort, the misinterpretation of which under the pressure of neurotic attitudes stirs up more anxiety and establishes the vicious circle: pain—anxiety—increased tension—increased anxiety and so on.

DR. HORACE C. PITKIN, San Francisco: The discussion of this paper for the first time has begun to give an all-around picture of pelvic pain. A gynecologist and a psychiatrist have discussed it, and there has been an attempt to correlate and group together all the various conflicting factors of pelvic pain that make the problem so complex and so disturbing. I don't believe that anyone failed to make himself perfectly clear or that there are any questions that need to be answered.

NERVOUS PATHWAYS INVOLVED IN PELVIC PAIN

Some Anatomic and Physiologic Aspects

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and
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In this symposium on the subject of pelvic pain, a review of the basic anatomy and physiology of the nervous pathways of pain in general and of pelvic pain in particular will assist toward a more nearly complete understanding of the various clinical entities which may give rise to this symptom. For a number of years most of the attention given to the subject of pain arising in the pelvic organs has been centered on the autonomic nervous system, which supplies these organs. It is obvious, however, that pain which arises in the pelvis may be somatic or visceral, or both, in origin. In this brief review the anatomy of both avenues of innervation will be considered and mention will be made of some of the concepts of the physiology of pain (see the accompanying illustration [1]).

SOMATIC INNERVATION

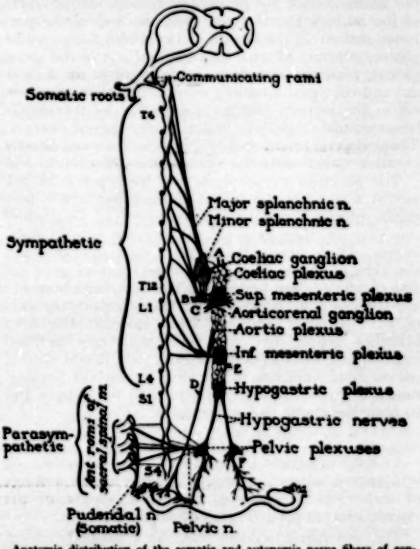
The term somatic innervation applies, of course, both to the sensory and the motor nerve supply to the frame of the body. The concern at this time is with the sensory somatic innervation, and it will be necessary to recall in general the origin and course of a sensory nerve. A spinal nerve arises from a segment of the spinal cord and is composed of an anterior (motor) root and a posterior (sensory) root. In the posterior nerve root is found the spinal ganglion, in which are located the nutrient cells of the sensory apparatus. This ganglion will be mentioned again in connection with the so-called sympathetic sensory nerves. After a short course as a single nerve trunk, each spinal nerve divides into anterior and posterior branches (or rami) which contain both sensory and motor components. Thirty-one such spinal nerves comprising eight cervical, twelve thoracic, five lumbar and five sacral nerves and one coccygeal nerve are present on each side of the body.

The posterior and anterior rami which arise from the mixed spinal nerves at the intervertebral foramina pass dorsally and ventrally, respectively. The posterior branches are relatively short and supply somatic structures on the dorsal surface of the body. The anterior branches, on the other hand, have a much wider distribution. They run independently in the thoracic region, but in other regions they anastomose freely to give rise to the complicated cervical, brachial and lumbosacral plexuses.

The anterior rami from the lumbar and sacral portions of the spinal cord and the coccygeal nerve forming the lumbosacral plexus probably constitute the group of nerves which have the most significance as far as interpretation of pelvic pain of somatic origin is concerned.[2]

There are short, direct branches which supply such muscles as the quadratus lumborum and the psoas major and psoas minor. The iliohypogastric nerve furnishes part of the supply to the transverse and internal oblique abdominal muscles, together with terminal branches to the peritoneum and to various cutaneous areas, including those over the lateral and upper portions of the iliac crest. The ilioinguinal nerves supply branches to the abdominal muscles, the peritoneum, cutaneous areas of the upper and medial parts of the thighs and, by labial branches, the mons pubis and the labia majora.

Branches from the femoral nerve in part supply the iliac and iliopsoas muscles. By other branches these



Anatomic distribution of the somatic and autonomic nerve fibers of concern to the gynecologist. *A*, Fibers to esophagus, stomach, duodenum, pancreas, liver, gallbladder and spleen; *B*, to kidney; *C*, to small intestine, cecum, ascending and transverse colon; *D*, to ovary and fallopian tube; *E*, to sigmoid and descending colon; *F*, to rectum, bladder and uterus. Somatic roots supply the abdominal wall and the parietal peritoneum. The pudendal nerve supplies the perineal structures.

nerves also supply fibers to the hip joint and cutaneous fibers to the anterior surface of the thigh. It is to be understood that all branches of some of these nerves are not mentioned because they do not apply to the subject under discussion. Another important nerve which arises from the lumbosacral plexus is the obturator

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1. From Mussey, R. D., and Wilson, R. B.: Pelvic Pain, a Follow-Up Study. Am. J. Obst. & Gynec. 42:1759-766 (Nov.) 1941.

2. Spalteholz, W.: Hand-Atlas of Human Anatomy, translated by L. F. Barker, ed. 7, Philadelphia, J. B. Lippincott Company, 1933, vol. 3, pp. 495-902.

nerve. This nerve gives off a branch to the external obturator muscle before dividing into anterior and posterior terminal branches which supply adductor muscles and cutaneous surfaces of the medial aspect of the thigh; the anterior branch gives off a branch to the hip joint.

That portion of the lumbosacral plexus known as the sacral plexus is formed from the anterior branches of the fourth and fifth lumbar and first to third sacral nerves. The pudendal plexus, which can be considered as a part of the sacral plexus, arises from the first four sacral nerves and supplies nerves to the pelvic viscera and to the muscles and skin of the perineum. The sacral plexus lies in the pelvis on the anterior surface of the pyriformis muscles. It sends branches to the pelvic girdle and to the lower extremity. Only the former will be mentioned.

Muscular branches are given off to the pyriformis, obturator internus, gemellus and quadratus femoris muscles. The superior gluteal nerve supplies branches to the gluteal muscles. The inferior gluteal nerve also supplies the gluteus maximus. The posterior femoral cutaneous nerves, by inferior clunial branches, supply the skin over the lower and lateral portions of the buttocks and, by perineal branches, furnish some of the sensory fibers of the perineum and of the posterior surfaces of the labia majora. From the pudendal plexus, which is situated in the lower part of the sacral plexus, muscular branches are given off to the levator ani and coccygeal muscles; visceral branches are given off to the rectum, bladder and vagina by the middle hemorrhoidal, inferior vesical and vaginal nerves. These visceral branches may go to their viscera directly or after union with the sympathetic plexuses.

The pudendal nerves leave the bony pelvis on the medial aspects of the ischial tuberosities, where they divide into the perineal and clitoral nerves. Just before this division they give off the inferior hemorrhoidal nerves, which supply the external anal sphincter and the skin of the anus. The perineal nerves give off superficial and deep branches. The superficial branches are the posterior labial nerves, which supply the skin of the perineum and the labia majora; the deep branches supply the superficial transverse perineal muscles and the bulbocavernosus. The dorsal clitoral nerves send branches to the deep transverse perineal muscles, to the urethral sphincters, to the clitoris and to both the major and minor labia.

VISCERAL INNERVATION

Visceral innervation is effected by the autonomic, or involuntary, nervous system. A survey of the writings of authorities[3] concerning the nerve supply of the viscera leads to the following conceptions:

The autonomic system can be classified on an anatomic basis into cranial autonomic, sympathetic proper and sacral autonomic components. It is worth while to note that the term sympathetic nervous system is properly applied only to that portion of the autonomic system which lies in the thoracolumbar region. Functionally, the cranial and sacral divisions are commonly called the parasympathetic system. In general the sympathetic and parasympathetic systems have antagonistic actions on organs which they both supply.

Another generalization in regard to the two systems is that in the sympathetic system the excitor cells usually are located in ganglions which are at a distance from the organs which they supply, and the excitor cells of the parasympathetic system are located in or adjacent to the organs which they supply. The excitor or efferent functions of the autonomic nervous system are of great importance and are generally known and understood. The portion of the autonomic system that is known as the sympathetic system begins with cells found in the lateral horns of the gray matter of the twelve thoracic and first two lumbar segments of the spinal cord.

These cells give rise to fibers which leave the cord via the anterior nerve roots to enter the mixed spinal nerves, from which they enter the anterior rami of the spinal nerves. The fibers then leave the anterior rami, forming the white rami communicantes, to enter ganglions of the lateral sympathetic chain, in which they end. These fibers from the lateral horn cells which pass to the sympathetic ganglions are known as connector, or preganglionic, fibers and are medullated. They may end in ganglions that are adjacent to their nerve root of origin or they may pass up or down the sympathetic chain to end in more distal ganglions. The connector fibers unite with excitor cells which are located in the ganglions. From these cells come the postganglionic, nonmedullated excitor fibers, some of which pass peripherally to supply visceral structures and some of which return to their corresponding spinal nerves as gray rami communicantes, to be distributed with branches of the spinal nerves to somatic structures. It is because of this latter fact that the sympathetic supply to the skin is segmental in character. By these postganglionic fibers are effected changes in the caliber of blood vessels, activity of sweat glands, control of functions of the bladder and bowel, regulation of the force and rate of contractions of the heart and other similar physiologic activities.

That this system also has afferent neurons and that the efferent excitatory effects occur following receipt in the central nervous system of afferent impulses is often forgotten. These afferent fibers have a fundamental arrangement similar to that of the somatic sensory neurons. The nutrient cells for the afferent fibers, which were previously mentioned, are found in the posterior root ganglions. The fibers from the viscera find their way to the central nervous system over the same anatomic route as that traveled by the autonomic, efferent, excitatory fibers, except that the fibers from the viscera enter the spinal cord through the posterior nerve roots. It is the current opinion that those afferent neural fibers which are concerned

3. (a) Wright, S.: Applied Physiology, ed. 7, New York, Oxford University Press, 1940. Best, C. H., and Taylor, N. B.: The Physiological Basis of Medical Practice, ed. 4, Baltimore, Williams & Wilkins Company, 1945. (b) Gask, G. E., and Ross, J. P.: The Surgery of the Sympathetic Nervous System, ed. 2, Baltimore, William Wood & Company, 1937. Labate, J. S., and Reynolds, S. R. M.: Sensory Pathways of the Ovarian Plexus: An Experimental Study, Am. J. Obst. & Gynec. 24:1-11 (July) 1937. Meigs, J. V.: Excision of Superior Hypogastric Plexus (Presacral Nerve) for Primary Dysmenorrhea, Surg., Gynec. & Obst. 68:723-732 (April) 1939; Gynecology: Pelvic Pain and Its Relief, New England J. Med. 222:187-190 (Feb. 1) 1940. Labate, J. S.: Surgical Anatomy of Superior Hypogastric Plexus—"Pre-Sacral Nerve," Surg., Gynec. & Obst. 67:199-211 (Aug.) 1938. Gasbell, W. H.: The Involuntary Nervous System, London, Longmans, Green & Co., 1916. (c) Kuntz, A.: The Autonomic Nervous System, ed. 3, Philadelphia, Lea & Febiger, 1945. (d) Pantaleo, R., and Herrmann, L. G.: Clinical and Experimental Basis for Surgery of the Pelvic Sympathetic Nerves in Gynecology, Surg., Gynec. & Obst. 84:133-163 (Feb.) 1932. Davis, A. A.: The Innervation of the Uterus, J. Obst. & Gynec. Brit. Emp. 40:481-497 (May) 1933; The Surgical Anatomy of the Presacral Nerve, ibid. 42:942-954 (Dec.) 1934; Presacral Nerve: Its Anatomy, Physiology, Pathology and Surgery (Hunterian Lecture), Brit. M. J. 2:1-6 (July 7) 1934. Ranson, S. W.: Afferent Paths for Visceral Reflexes, Physiol. Rev. 1:477-522 (Oct.) 1921. Learmonth, J. R.: Resection of the Presacral Nerve for Cord Bladder, Proc. Staff Meet., Mayo Clin. 5:54-56 (Feb. 26) 1930; A Contribution to the Neurophysiology of the Urinary Bladder in Man, Brain 54:147-176 (June) 1931. Neurosurgery in Treatment of Diseases of Urinary Bladder: Anatomic and Surgical Considerations, J. Urol. 28:531-549 (June) 1931. (e) Curtis, A. H.; Anson, B. J.; Ashley, F. L., and Jones, T.: The Anatomy of the Pelvic Autonomic Nerves in Relation to Gynecology, Surg., Gynec. & Obst. 78:743-750 (Dec.) 1942. (f) Weinstein, B. B.: The Surgical Anatomy of the Superior Hypogastric Plexus with a Report of 150 Personal Dissections, ibid. 74:245-255 (Feb. 1) 1942. (g) Reynolds, S. R. M.: Physiology of the Uterus with Clinical Correlations, London, Hamish Hamilton Medical Books, 1939. White, J. C.: The Autonomic Nervous System: Anatomy, Physiology and Surgical Treatment, New York, The Macmillan Company, 1935.

with transmission of the sensation of pain are true sensory fibers and should not be considered as part of the autonomic nervous system except from the anatomic point of view. Thus, if this view is held, it becomes incorrect to speak of sympathetic sensory nerves. One must make a distinction between the afferent nerves concerned with purely autonomic functions and those concerned with the transmission of pain. From this description it follows that pain impulses which arise in the pelvic viscera are transmitted by sensory nerves which travel in the anatomic sympathetic system but which physiologically are not part of it.

The sympathetic supply to the pelvic viscera is formed by preganglionic, connector fibers which pass through the sixth to the twelfth sympathetic ganglions to form the major and minor splanchnic nerves. After these have passed through the celiac ganglion they form the celiac plexus. This plexus lies on the abdominal aorta just behind the pancreas. Fibers from the celiac plexus pass downward to form, successively, the superior mesenteric plexus, the aortic and intermesenteric plexuses and the inferior mesenteric plexuses, all of which lie on the abdominal aorta. The inferior mesenteric plexuses receive additional fibers from those portions of the lateral sympathetic chain which extend from the twelfth thoracic to the third lumbar ganglion. Farther down, at the bifurcation of the aorta, the fibers enter the region of the interiliac trigone to form the superior hypogastric (presacral) plexus at the levels of the fourth and fifth lumbar vertebrae. The superior hypogastric plexus also receives fibers via each of the four lumbar sympathetic ganglions.

From the superior hypogastric plexus, fibers descend to the pelvic viscera in a varying manner. It is the opinion of most writers on the subject that only rarely is there a single presacral nerve. Curtis and his associates [3c] stated that in 20 per cent of cases there was fusion into a single nerve; however, Weinstein [3f] found the single nerve to exist in but 4 per cent of his dissections, while there were bilateral nerve cords in 8 per cent and a plexus pattern in 88 per cent.

Below the sacral promontory the superior hypogastric plexus becomes the middle hypogastric plexus, and the latter divides at the level of the first sacral vertebra to form the bilateral inferior hypogastric plexuses. These continue downward and laterally along the pelvic wall, and at the level of the third sacral vertebra they receive fibers from the sacral plexus. These fibers from the sacral plexus represent the parasympathetic portion of the autonomic nervous system and are known as the nervi erigentes. These are the source of parasympathetic innervation to the uterus, tubes, ovaries and the walls and internal sphincters of the bladder and rectum.

From this description it is obvious that the inferior hypogastric plexus forms the anatomic pathway for both sympathetic and parasympathetic systems in this portion of the pelvis. However, there is no known physiologic or anatomic junction of the two parts of the autonomic system in this vicinity. From a point in the vicinity of the posterior ends of the uterosacral ligaments, the fibers of the inferior hypogastric plexus descend over the rectum to join the plexus of the pelvis. This plexus is also called the ganglion of Frankenhäuser and the uterovaginal plexus. It is located on the posterior surface of the base of the broad ligament, just lateral to the lateral vaginal fornix. From this plexus the uterus, bladder, vagina and rectum receive their sympathetic nerve supply.

The ovaries, as would be expected when their embryologic origin high in the abdomen is considered, receive their sympathetic nerve supply from fibers which reach them along the ovarian arteries and which come from the aortic plexus. The uterine tubes also receive their sympathetic supply from fibers which pursue the same anatomic course. The neural components which supply the ovary originate mainly from the tenth thoracic nerve, while those which supply the tubes are from the eleventh and twelfth thoracic nerves. Because of the differing anatomic routes, it is obvious that neurectomy in the interiliac trigone, although, as a rule, it relieves pain which originates in the uterus, will have no effect on pain which originates in the ovaries.

RECEPTION OF PAIN AND CENTRAL TRANSMISSION

Pain is but one of the sensations carried by sensory nerves, but knowledge concerning the manner in which pain impulses are formed is less nearly complete than is that concerning other sensations received from external stimuli (exteroceptive) and concerning those that are received from internal stimuli (proprioceptive).[4] This sensation apparently has its origin in stimulation of free nerve terminations while other types of sensation apparently are caused by stimulation of specific types of end organs such as muscle spindles, organs of Golgi and pacinian corpuscles. There seems to be but little doubt, however, that there are specific nerve endings which respond to appropriate painful stimuli and not to others.[5]

After such a stimulus the pain impulse is carried over nervous pathways to the spinal cord, as has been indicated in the foregoing sections. An important physiologic fact is that neurons which carry each type of sensation separate into groups soon after they have reached the cord. After they have entered the cord through the posterior nerve roots, the sensory fibers which convey the sensation of pain enter the posterior gray column and connect with nerve cells therein. A secondary relay of axons crosses to the opposite side in the anterior portion of the gray matter, to ascend as the lateral spinothalamic tract. The grouping in the spinal cord of axons which convey visceral pain is not as definite as is the grouping of axons which convey somatic pain; it is known [3c] that abolition of true visceral pain by cordotomy requires more extensive section than is required for abolition of somatic pain. After the axons have ascended in the cord to the medulla as the spinothalamic tract they enter the mesial fillet and continue in this structure to reach the thalamus.

The thalamus represents the highest sensory level of lower animals. In man this function is largely taken over by the sensory cortex. As far as the thalamus and consciousness of pain are concerned, it is known that if the connections between the thalamus and sensory cortex are severed, either painful or pleasurable stimuli can be felt and that such sensations are greatly accentuated in degree. From the thalamus sensory stimuli are carried to the parietal cortex, to end, presumably, in the ascending parietal convolution which lies posterior to the central rolandic sulcus.

COMMENT

Interpretation of a stimulus such as pain demands consideration of its severity, duration, location and quality. It is well known that pain which arises in superficial somatic structures can be adequately evaluated as to these characteristics. Cutaneous pain is always of the same quality, no matter what the reason for it may be, and is not difficult of localization.[6] Pain which arises in muscle is more likely to be disagree-

4. Adrian, E. D.: The Mechanism of the Sense Organs, Physiol. Rev. 10: 336-347 (April) 1930. Footnote 3a.
5. Pain and Disease, editorial, Brit. M. J. 1: 340-341 (Feb. 12) 1938.
6. Lewis, T.: Suggestions Relating to the Study of Somatic Pain, Brit. M. J. 1: 321-325 (Feb. 12) 1938.

able and fluctuating and more difficult to locate. When one endeavors to identify the locale of pain which arises in deeper structures, difficulty arises and it is necessary to take into consideration the mechanism of direct and referred pain.

Studies and clinical observations concerning visceral pain form a most interesting chapter in medical history. Ross,[7] Lennander,[8] Head,[9] Mackenzie,[10] Hurst,[11] Morley,[12] Lewis[13] and Kellgren[14] and others have developed more or less controversial ideas relative to the derivation of pain from a viscus. Early authors rejected the idea that pain could arise directly from a viscus. At present, however, most authorities accept two types of visceral pain, direct pain and referred pain. It has been suggested that the viscera have not developed a sense of localization such as that of the skin, so that the effect of disturbance may not be felt in the organ affected. The stimulus may be conducted to that portion of the spinal cord from which the sympathetic nerves that supply the organ are given off and irritability may be set up in that segment of the cord. From there, the stimuli may be distributed as pain or discomfort to somatic regions served by the segment of the cord concerned.

It is highly possible that there is a subliminal fringe, or subthreshold, of excitation of sensory nerves;[15] that is, a certain minimal number of afferent impulses must be received by a central neuron before sufficient excitation occurs to transmit a stimulus to the sensory cortex. For example, afferent sensory impulses are received from a viscus and from a neighboring somatic region, either of which alone is subthreshold, but as these impulses reach the same portion of the cord, the stimulus is sufficient to cross the threshold and a sensory impulse is set up, which is consciously localized in the somatic rather than in the visceral region.

It appears that a certain type of stimulus must be present to produce direct visceral pain. Viscera are insensitive to such stimuli as cutting, burning and crushing but are sensitive to adequate stimuli which threaten to interrupt ordinary physiologic processes. Such stimuli are rapid distention or vigorous contraction of hollow viscera, rapid stretching of the capsule of a solid viscus, crushing or stretching of blood vessels and anoxemia of functioning muscular tissue.

"Even with combined reflex and direct sympathetic nerve response to pain, the pelvic organs remain relatively insensitive to pain."[16] Much of the sensation of pain from visceral lesions is owing to the somatic pain produced by stretching, injury or inflammation of the peritoneum. In diagnosis of the cause of pelvic pain and evaluation of its degree, intangible factors as well as pathologic changes in the viscera must be considered. For example, the pain caused by a lesion of a pelvic viscus may be localized at first, but if the patient becomes anemic, is exhausted by disease or is under nervous or mental stress a subthreshold stimulus, which ordinarily would be unnoticed is registered as pain. Or the stimulus may become of a more generalized nature, until finally the pain or discomfort may have no apparent relation to the affected organ. In certain cases of pelvic pain—for example, certain cases in which the complaint is of so-called uterine or ovarian pain—the sensation perhaps is psychic or psychosomatic in origin. Violent emotion accompanied by vascular contraction of surface vessels and of the vessels of internal organs may give rise to sensations of pain.

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11. Hurst, A. F.: The Goulstonian Lectures on the Sensibility of the Alimentary Canal, London, Henry Frowde, 1911.
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15. Denny-Brown, D. E., and Sherrington, C. S.: Subliminal Fringe in Spinal Flexion, J. Physiol. **66**: 175-180 (Oct.) 1928.
16. Mussey, R. D.: Pelvic Pain, Am. J. Obst. & Gynec. **37**: 729-740 (May) 1939.

ABSTRACT OF DISCUSSION

DR. ARTHUR H. CURTIS, Chicago: As Drs. Wilson and Mussey have stated, the spinal nerves supply the somatic tissues. The visceral innervation has been considered largely autonomic, comprised of sympathetic and parasympathetic fibers; but it is now believed that an indeterminate number of pain-conducting fibers of sensory nerves are incorporated with the autonomic nerves. The fibers of the superior hypogastric plexus, or so-called presacral nerve, of so much interest in clinical gynecology, are supported in a loosely woven delicate meshwork of connective tissue. One cannot remove the connective tissue in its entirety without destruction of the delicate strands of nerve fibers, many of which are grossly discernible, although more clearly seen with a dissecting lens. I believe that skilled dissection of a well preserved body always reveals innumerable presacral nerve fibers; discovery of a single strand bespeaks inadequate dissection of a desiccated, poorly preserved specimen. It is of surgical interest to note that the nerve trunks of the superior and middle hypogastric plexuses tend to be located to the left of the midline. Presacral neurectomy should therefore be particularly thorough on the left side, which is more difficult to dissect; the superior hemorrhoidal artery and vein and the left ureter should be identified as a routine measure for safety.

DR. J. V. MEIGS, Boston: Drs. Wilson and Mussey's paper is very technical and it is difficult to use its perfect neurologic descriptions in the interpretation of clinical disorders. Certain considerations that I consider important are the interpretation of the pain which occurs in patients suffering with dysmenorrhea. It is extremely difficult to separate real pain from psychic pain, or that which is expected to occur when bleeding appears. To obviate this problem and to indicate to the surgeon which patients may and which patients may not benefit by a presacral neurectomy or excision of the superior hypogastric ganglion a simple test has been developed. This test has been satisfactory in 85 to 90 per cent or more of the patients who have been operated on for relief of dysmenorrhea. Many patients are so conscious of pelvic pain at the time of the menses that a way had to be developed to enable the physician to differentiate real and psychic pain. Sturgis and Albright and later Sturgis and Meigs proved that essential dysmenorrhea could be overcome by the proper use of diethylstilbestrol or estradiol dipropionate. These hormones given in proper dosage prevent ovulation, and it is well known that anovulatory cycles are without pain. This appears to be a good test to separate real dysmenorrhea from assumed or psychic dysmenorrhea. Therefore, before a presacral neurectomy is done one of the methods already described is used to prevent ovulation. I have as a rule used diethylstilbestrol as an oral medicament. The plan is as follows: Starting on the first day of the menstrual cycle the patient is given 1 mg. of diethylstilbestrol for twenty days, and if a flow occurs within three to five days after cessation of the medicament the flow is considered as anovulatory. This flowing should be painless. If the patient says that the pain is just as intense as ever something has gone wrong with her method of treatment. If the patient says that it is the most wonderful treatment and that she had no pain at all, then that patient has true essential dysmenorrhea. If the patient says that she is

better or improved but that she still had some pain, then she is suffering from a psychic type of pain and does not evaluate her discomfort accurately. The only patients whom I operate on for pain of dysmenorrhea are those who say, after the use of diethylstilbestrol, that it is wonderful and they had no pain at all. In these patients the results of excision of the superior hypogastric plexus should be 100 per cent satisfactory.

DR. B. B. WEINSTEIN, New Orleans: I should like to comment on the term "presacral neurectomy" because, as Uncle Remus used to say, "there ain't no such animal." In regard to a prelumbar plexus, the superior hypogastric sympathetic plexus, in the dissection of 300 of these the incidence of a single "nerve" ran slightly more than 1 per cent. I have been interested in this question for some time and have carefully followed the use of superior hypogastric sympathectomy, particularly in primary dysmenorrhea. I think the failures that have been reported in primary dysmenorrhea are based on a lack of appreciation of the anatomy of the plexus and a correct selection of the type of case for which this procedure should be reserved. As Dr. Mussey pointed out, one should be able to differentiate the ovarian and uterine sources of pain, and with the further clarification which Dr. Meigs suggested, one should exercise far more care in the selection of patients as candidates for superior hypogastric sympathectomy. In patients who are properly selected and in those in whom a correct hypogastric sympathectomy is performed, clearing out all the fibers in the interiliac trigone down to the periosteum, there should be universally good results. I should like to call attention to the left lateral deviation of the hypogastric sympathetic fibers in the interiliac trigone, which occasions some of the disappointment in results which have been noted. This deviation of fibers to the left is frequently overlooked, and an area in the midline of the interiliac trigone is excised under the erroneous impression that the so-called presacral nerve has been removed. If one performs a careful resection of the area, removing all the interiliac trigonal fibers, there should be no question about all the nerve filaments being removed and there should also be no question about nerve fibers being found by the pathologist on examination of the excised tissue. Superior hypogastric sympathectomies for primary dysmenorrhea should be reserved as a treatment of last resort, after the more conservative procedures of psychotherapy, adequate sedation, antispasmodics and hormonal therapy have been exhausted.

DR. JOHN G. P. CLELAND, Oregon City, Ore.: Since I was the first, some twenty years ago, to evolve any method of positively determining the nervous connections of any particular internal organ to the cord and was the first to publish after years of experimentation on dogs and private patients conclusive evidence of the sensory supply of the uterus, I may add a little to Dr. Mussey's and Dr. Wilson's presentation of this important subject. May I suggest a test to determine when presacral neurectomy should be done? The pathway of pain from the uterus passes from the presacral nerve laterally upward through each lumbar sympathetic chain to enter the cord by the twelfth and eleventh thoracic roots. The point I wish to bring home is that any one may block the pain of uterine contraction at any point along this pathway of pain. The method I use is based on careful anatomic measurements of the average distances of the pathway from certain constant bony landmarks; so that, whether the patient be thin or fat, the pathway of pain may be consistently blocked with as little as 2.5 to 5 cc. of long-acting anesthetic agent. By the use of such small doses, which have completely relieved pain dozens of times, I feel that I have proved that the pathway does not follow the aortic plexus upward, and that therefore it may be reached, if one so wishes, by the technic of lumbar sympathetic block published by Dr. Alton Ochsner.

DR. ROBERT D. MUSSEY, Rochester, Minn.: I wish to thank the gentlemen who have discussed this paper. I am particularly grateful to Dr. Curtis for his scholarly presentation. In writing this paper we considered that we were distinctly limited to the subject of nervous pathways, and we did not report on some of the avenues which have been discussed this morning. I appreciate the fact that these points have been brought out because the subject of pelvic pain is a broad one and certainly it still needs clarification.

TREATMENT OF CANCER OF THE FACE, MOUTH AND NECK WITH IRRADIATION

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Cancer of the exposed surfaces of the skin and cancer of the mouth are of unusual interest to physicians in the Southern states because of their high incidence in this area. Mountin and Dorn [1] described this geographic peculiarity in 1939 and observed that the increase in the number of oral lesions over that found in other regions was confined almost entirely to women. Although no explanation was offered for this observation, our own experience indicates that it is due to the prevalent habit of snuff dipping among the women of the poorer classes in the South. About 90 per cent of the women admitted to our clinic with cancer of the mucosa of the cheek and palate have dipped snuff for long periods of time.

Phillips [2] called attention to the high incidence of cutaneous cancer in farmers and ranchers in the Southwestern states and reported that 33.8 per cent of 3,683 cancers recorded in a United States Public Health survey made for the Dallas-Fort Worth area in Texas in 1939 were cutaneous lesions. The next highest figure was 30.3 per cent recorded in Birmingham, Ala. Most dermatologists believe that this high incidence results from constant exposure to sunshine and hot winds, which produce multiple precancerous lesions in the blond type of skin found so predominantly in the white population of the Southwestern states. Malignant lesions of the skin are so common in Texas that the average outdoor worker is prone to disregard them until they become large enough to cause pain or inconvenience.

TECHNIC

In our clinic all the lesions under consideration are treated primarily with irradiation and electrosurgical methods, and patients are referred to a plastic surgeon only when complications appear or when a restoration of destroyed tissue is indicated. Since this plan of procedure is looked on with disfavor in some surgical centers, a report of our results should be of interest.

Epidermoid carcinomas of the skin and lip which measure less than 2 cm. in diameter and show little or no infiltration are treated with superficial roentgen therapy. The treatment factors are: 85 kilovolts, 5 milliamperes and a target skin distance of 16 cm. and a filter of 0.5 mm. of aluminum. The area treated must cover the lesion and an appreciable margin of normal skin around its edges. Daily doses of 1,100 r (measured in air) are given for four or five days, the total dose being 4,400 to 5,500 r. When the tumor is elevated well above the surface the presenting portion is removed by electrosurgical intervention with the patient under local anesthesia before the roentgen therapy is started. This procedure is important because it renders the extremely large doses of irradiation recommended by some radiologists unnecessary. A rather severe reaction appears about seven days after the treatment is completed, and the treated area is often

Read before the Section on Radiology at the Ninety-Fifth Annual Session of the American Medical Association, San Francisco, July 4, 1946.

1. Mountin, J. W., and Dorn, H. F.: Some Peculiarities in the Geography of Cancer, J. A. M. A. 112:2405 (Dec. 30) 1939.
2. Phillips, C.: The Relationship Between Skin Cancer and Occupation in Texas, Texas State J. Med. 36:613, 1941.

denuded. All evidence of the tumor disappears during the period of reaction, and healing occurs in six to eight weeks. The resultant scarring is slight and the cosmetic results, particularly on the lip, are excellent. Each treatment requires only a few minutes for its administration, and the patient loses little time from

Fig. 1.—Large squamous cell carcinoma, grade 2, which has remained well for ten years following one course of roentgenologic therapy given with the Coutard technic.

his occupation. This technic, which has been described in detail in previous articles,[3] was built around the procedure described by Pusey [4] in 1907 and can hardly be looked on as new or untried.

When the superficial method is applied to large areas, the reaction is severe and healing is often slow. Although it was used with some success in the treatment of large lesions in our earlier work, the divided

Fig. 2.—Large squamous cell carcinoma, grade 1, which has remained well for ten years following a course of Coutard therapy supplemented by radium needles used in the corner of the mouth and inner cheek.

dose deep therapy technic first described in this country by Coutard [5] in 1932 was found to offer many advantages. Our modification [6] of the Coutard method for the treatmentof large carcinomas of the skin was published in 1935, but some changes in this technic have since been made. At the present time the treatment factors are: 200 kilovolts, 20 to 25 milliamperes, a target skin distance of 50 cm. and filters varying from 0.5 mm. of copper and 1 mm. of aluminum to 0.8 mm. of tin, 0.25 mm. of copper and 1 mm. of aluminum. The heavy filtration is used when it seems advisable to reduce the cutaneous reaction to a minimum. Ports measuring 15 cm. on a side have been used successfully, but most of this work has been done through 10 cm. ports. Just as with the superficial method, the area treated must include a strip of normal skin completely surrounding the tumor. For squamous cell carcinoma a daily dose of 300 r measured in air is administered (skipping Sundays) until a total of 3,600 roentgens has been given. The sequence of events is similar to that observed with the superficial technic, but healing may not be complete for two or three months after the treatment is finished. Here again it is desirable to remove polypoid masses by an electrosurgical procedure before the roentgen therapy is started.

Fig. 3.—Large squamous cell carcinoma, grade 2, with involvement of the lower ear which has remained well for five years following the layer radium needle technic.

Although Richards,[7] Hayes Martin [8] and others use the Coutard roentgenologic technic successfully in treating certain intraoral cancers with roentgen rays, we prefer an interstitial radium needle technic for all lesions in the mouth. It is also useful in the care of deep seated lesions on the face and lip. Our needles are patterned after those used by Cade [9] and his associates in England. They contain approximately 0.6 mg. of radium per centimeter of active length, are made of platinum and have a wall thickness of 0.5 to 0.6 mm. The needles found most useful have active lengths of 0.5, 1.5 and 4 cm. In order that dosage may be easily estimated they are always left in place for exactly seven days. With the exception of rounded tumors in the body of the tongue and large masses of lymph nodes, practically all the carcinomas considered in this paper either grow as flat tumors or can be reduced to such layers by electrosurgical means. Treatment is administered by inserting the needles into the base of the layer of growing tissue in patterns designed to deliver not less than 6,000 r to all the tumor cells.

3. Martin, C. L.: Squamous Cell Carcinoma of the Skin, Am. J. Roentgenol. 28:728, 1932. Martin, J. M., and Martin, C. L.: The Fractional Dose Method in the X-Ray Treatment of Skin Malignancies, South. M. J. 27:391, 1934.

4. Pusey, W. A.: The Principles and Practice of Dermatology, New York, D. Appleton and Company, 1907.

5. Coutard, H.: Roentgen Therapy of Epitheliomas of the Tonsillar Region, Hypopharynx and Larynx from 1920 to 1926, Am. J. Roentgenol. 27:313, 1932.

6. Martin, J. M., and Martin, C. L.: Modified "Coutard" Roentgen Therapy, J. A. M. A. 104:605 (Feb. 23) 1935.

7. Richards, G. E.: The Treatment of Cancer of the Tongue, Am. J. Roentgenol. 47:191, 1942.

8. Martin, H. E.; Munster, H., and Sugarbaker, E. D.: Cancer of the Tongue, Arch. Surg. 41:888 (Oct.) 1940.

9. Cade, S.: Malignant Disease and Its Treatment by Radium, Bristol, John Wright & Sons, Ltd., 1940.

A diagram which was worked out with the aid of Quimby and published in a previous paper [10] makes the estimation of dosage at various points in the tumor relatively simple. Rounded tumors are treated by inserting the needles in two or more theoretic layers placed one above another. With such a plan the only variable is the arrangement of the needles, and the experienced operator can devise patterns which will effectively irradiate tumors of all shapes and sizes.

In our earlier work, radon seeds could not be obtained and it was found necessary to devise needle technics as a substitute. We were soon convinced that the needles offered certain advantages, which were described in a paper [11] published in 1932. No radon implants are used at the present time.

REACTIONS TO TREATMENT

Too much emphasis cannot be placed on the fact that a rather severe reaction always follows the proper use of a carcinolytic dose of x-rays or radium. This reaction, which consists in a pronounced erythema on the skin and a grayish discoloration in the mucous

Fig. 4.—Large mixed squamous and basal cell carcinoma with extensive subcutaneous infiltration which has remained well for three years following the layer radium needle technic. The deep scar on the cheek followed coagulation of a recurrent nodule.

membranes of the mouth, appears in a week or ten days after the treatment is finished. It is not particularly painful and should not be confused with the extremely painful indolent ulcer which may result from high dosage or improper technics. When large areas are treated the epithelium on intact surfaces disappears soon after the reaction reaches its peak, and it is during this period that the neoplastic tissue rapidly melts away. Healing requires from six to eight weeks or even longer, depending on the size of the lesion. It is our custom to apply dressings of boric acid ointment to the external areas each day. Although we are familiar with the warnings issued against the use of this medicament on denuded surfaces, we have observed no ill effects following its application over long periods of time and we are impressed with the comfort which it affords the patients. Treatment reactions on the mucous surfaces of the lips are more painful than those on the skin, and the frequent application of metycaine hydrochloride ointment 5 per cent gives much relief. Reactions inside the mouth are treated with the frequent use of alkaline mouth washes and the application of a 5 per cent solution of merbromin to the affected region after each feeding.

The radiologist who is conscientious in his efforts to deliver a carcinolytic dose to every tumor treated will encounter a few cases in which the reaction does not heal promptly but produces a slough instead.

Fig. 5.—Large squamous cell carcinoma, grade 4, which was treated by electrosurgical means plus the Coutard technic. The neck was smoothly healed when the patient died of pulmonary metastases eight months later.

Although such sequelae are usually attributed to errors in technic, some of them are undoubtedly due to other factors, such as poor blood supply, excessive fibrosis and previous types of therapy. Superficial sloughs on the cutaneous surfaces respond well to vitamin A and D ointment or cod liver oil ointment used over a long period of time. Sloughs in the tongue or cheek and devitalized areas in the jaw which do not separate after several months of palliative therapy should be removed surgically. Small areas of necrosis

Fig. 6.—Large mass of squamous cell carcinoma in upper cervical nodes diagnosed by needle biopsy which has remained well for six years following the combined radium needle and Coutard technic.

in the mouth often result from low grade infections and may be efficiently treated with penicillin lozenges, which not only induce healing but may produce immediate relief of discomfort. Large doses of irradiation applied to the ear or nose may produce an extremely painful chondritis, the discomfort of which is promptly relieved by removal of the involved cartilage.

10. Martin, C. L.: The Layer Technique in Radium Needle Therapy, Am. J. Roentgenol. **48**: 377, 1942.
11. Martin, C. L.: Small Radium Needles Versus Radon Implants, Am. J. Roentgenol. **27**: 240, 1932.

REPETITION OF TREATMENT

The radiologist charged with the care of a cancer patient should make an all-out effort to produce a cure with his first series of treatments because the second attempt is never very effective and may actually produce harmful results. If cures are to be produced the bold application of an efficient technic is preferable to a cautious approach, even though a few untoward sequelae may result. The patient with cancer of the skin who has received relatively small doses of roentgen rays given once a week over long periods of time by the "watch and wait" method constitutes one of our most difficult problems. In these cases the tumor bed has been damaged so that the normal tissues may not be able to recover from carcinolytic doses. When small malignant nodules persist or small recurrences are observed later in heavily irradiated areas it is our custom to remove them by electrosurgical intervention unless the normal tissues are in unusually good condition. When surgical procedures are contraindicated and heavy irradiation is applied a second time as a life-saving procedure, a slough often results.

CANCER OF THE SKIN OF THE FACE AND NECK

Carcinomas of the skin of the forehead, temples, cheeks and neck, regardless of their size or histologic structure, may be treated successfully with irradiation.

TABLE 1.—*Proved Advanced Cancer of Face and Lip, 1936 to 1943*

Site	Total No. of Cases	Cases Traced	Living and Well (Yrs.) 10	8	7	6	5	4	3	Well 3 or More Yrs.
Ear	19	12	..	..	..	..	..	1	4	5
Face and neck	44	21	1	..	..	..	3	1	5	10
Lip	56	33	2	3	3	1	..	2	3	14
	119	66	3	3	3	1	3	4	12	29

No attempt is made to separate the basal cell and squamous cell lesions, because many of the larger tumors contain cells of both types and it seems best to use technics capable of destroying the most resistant cells which may be encountered in all cases. Tumors measuring less than 2 cm. in diameter are treated by the superficial roentgenologic technic; the large tumors are treated with the Coutard technic if they are fairly superficial and with radium needles if there is much infiltration.

Tumors of the eyelids are treated with the superficial roentgenologic technic. After a topical anesthesia has been produced by placing several drops of a 4 per cent solution of cocaine in the conjunctival sac, a gold-plated brass shield is slipped under the lids. The treatment cone is then placed directly over an opening cut in a piece of lead foil placed so that the tumor and a rim of normal tissue is exposed. With such shielding at the time of each treatment the conjunctiva is not damaged and healing produces a minimum of scarring and deformity. Malignant tumors of the inner canthus may be treated in this manner when they are superficial. However, they frequently are accompanied by deep induration which extends well down into the orbit. This complication is best treated with a layer of weak radium needles with active lengths of 1.5 cm. plunged into the inner portion of the orbit so that they extend well beyond the palpable induration. Cancers of the bulbar conjunctiva respond well to the superficial roentgenologic technic and heal with no demonstrable damage to the eyeball. Two such cases have been followed for eight years, and both patients have good vision. The procedure is the same as that used for the lids, except that an eyelid retractor is inserted at the time of each treatment and the lead foil shield is placed directly over the lesion on the eyeball. The lens must be carefully protected to prevent the formation of a cataract.

Small superficial carcinomas on the nose may be eradicated with the superficial roentgenologic technic, but large lesions, particularly those which invade cartilage, are removed by surgical diathermy. When deep invasion has occurred, the entire nose is removed with the cutting current and the Coutard technic is applied to a circular 7 cm. port which includes the entire nasal passage. After healing has occurred an artificial nose attached to a pair of glasses hides the defect rather effectively.

Carcinoma of the ear presents a similar problem. Although small lesions confined to the skin respond well to the superficial roentgenologic technic, most of the patients coming into our clinic manifest cartilaginous invasion. When the disease is limited to the auricle the involved portion is quickly removed with the cutting current and no attempt is made to approximate the skin edges. For the best results the visible edge of cartilage should be cut away so that the skin edges are in contact. Large carcinomas almost invariably invade the skin in front of or behind the auricle and often undermine this structure. When this complication occurs, the overlying portion of the auricle is removed and radium needles are inserted into the remaining layer of involved tissue on the side of the head. Invasion of the auditory canal is handled by stitching small radium needles into the walls of the passage. In our experience no advanced cancer of the ear has responded well to irradiation without removal of the overlying cartilage, and we consider this procedure an essential part of the technic.

All superficial carcinomas of the lip measuring less than 2 cm. in diameter are treated with the superficial roentgenologic technic, and the cosmetic results are far superior to those obtained with surgical means. Large tumors and those showing deep induration respond extremely well to the layer radium needle technic, and since all normal tissue is salvaged the cosmetic results compare favorably with those obtained by radical surgical intervention. The procedure is simplified by the removal of all proliferating tissue before the implantation is performed.

Although a large number of small cancers of the face and lip have been successfully treated by the technic previously outlined, many of them have not been studied by biopsy and they are not included in the statistical portion of this paper. A series of 119 well advanced, histologically proved carcinomas of the face and lip is reviewed in table 1. All these tumors except a few large basal cell lesions on the face were of the squamous cell variety. The tumors on the face and neck measured from 3 to 9 cm. in diameter, and palpable nodes were detected in 8 of the 44 cases. All 19 cases of carcinoma of the ear showed extension to the skin outside the auricle, and there was a palpable cervical lymph node in 1 case. The tumors of the lip measured from 2 to 5 cm. in diameter, and palpable cervical nodes were present in 17 of the 56 cases. The patients reviewed in this paper come from a floating population, and we have reason to believe that some

of those not traced are well. Many of them were old at the time of treatment, and we are fairly certain that some of the deaths were not due to cancer. However, if it be assumed that all the untraced patients are dead, it can still be stated that almost one fourth of the entire number, and nearly half of the patients traced, were living and well at the end of three years.

CANCER OF THE MOUTH

It is highly desirable that all teeth situated adjacent to the treatment zone be removed and the gums be healed before irradiation therapy is started.

Large carcinomas of the tongue constitute the most formidable problem of all the tumors under consideration. Most of the lesions on the lateral borders and tip can be reduced to flat layers for radium needle implantation by surgical diathermy. Masses in the center of the tongue and those situated well back on the root are treated by plunging needles with 1.5 cm. active lengths vertically into the tumors. Good exposure is obtained by pulling the tongue well out of the mouth by means of a towel clamp fixed in the tip. All needles placed in the mouth must be securely sutured in place. The operator is called on to exercise some ingenuity in devising a pattern which will irradiate all malignant tissue evenly, particularly when irregular extensions are found in the floor of the mouth.

Primary cancers in the floor of the mouth usually are found beneath the anterior portion of the tongue and may extend onto the alveolar margins. The best results are obtained by placing a vertical row of the smallest needles along the inner edges of the gums and augmenting them with a few 1.5 cm. needles placed transversely under the tumor. Contrary to the general belief, few such cases have shown serious damage to the bone.

Carcinomas of the mucosa of the cheek are usually flat tumors, and they lend themselves naturally to the layer radium needle technic. Extension onto the palate, alveolus and floor of the mouth must be carefully implanted, and each case presents a problem in geometry. The most difficult extensions are those found deep in the cheek just external to the ramus of the mandible and above and outside the upper alveolar margin. Even when all the cancer in this region is eradicated the resulting fibrosis renders complete opening of the mouth impossible, and in a few cases it has been necessary to remove several incisors so that food might be taken in sufficient quantities.

Primary lesions on the anterior part of the pillar and soft palate are always flat and are easily implanted. However, the insertion of needles into the base of a tumor on the hard palate presents a real problem. This procedure is greatly facilitated by injecting a liberal amount of local anesthetic under the membranes beneath the tumor. When the needles are inserted into these edematous membranes they tend to stay in place. Many radiologists prefer contact applicators for such lesions, but some of our implanted tumors have shown good results with the insertion of needles.

After needle implantations are carried out the patterns are studied in roentgenograms of the involved area. Technical errors may be easily corrected by changing the positions of incorrectly placed needles. This checking procedure constitutes a real advantage over radon seed implantations.

A review of 113 cases of well advanced cancer of the mouth is presented in table 2. All the tumors in this series were proved squamous cell carcinomas. The tumors of the tongue measured from 2 to 4 cm. in diameter, and cervical nodes were palpable in 7 of the 36 cases. The lesions on the floor of the mouth measured from 2 to 5 cm. in diameter, and cervical nodes were palpable in 3 of the 12 cases. The lesions on the cheek and palate measured from 2 to 4 cm. in diameter, and cervical nodes were palpable in 8 of the 65 cases. The end results were about the same as those obtained with treatment of the same type of cancer on the face and lip.

METASTATIC CERVICAL LYMPH NODES

All the malignant tumors considered in this paper may metastasize to the cervical lymph nodes, and the care of the neck is an integral part of the treatment. Wilson's [12] recent review of the literature on this subject illustrates the existing diversity of opinion relative to proper therapeutic procedures. Many surgeons are convinced that irradiation produces no cures and that block dissection is the method of choice. A review of published reports indicates that surgical intervention offers a chance of cure in only a limited group of cases with early glandular involvement.

TABLE 2.—*Proved Squamous Cell Carcinoma of Mouth, 1935 to 1943*

Site	Total No. of Cases	Cases Traced	Living and Well (Yrs.) 10	9	7	6	5	4	3	Well 3 or More Yrs.
Tongue	36	21	..	..	2	..	2	..	3	7
Floor of mouth	12	10	1	..	1	..	..	2	3	7
Cheek and palate	65	31	1	2	..	4	1	3	4	15
	113	62	2	2	3	4	3	5	10	29

It is true that many of the published irradiation technics are of little value. In our opinion cervical nodes containing squamous cell carcinoma cannot be cured with external irradiation alone because the carcinolytic dose for cancer in lymph nodes is considerably larger than that required for the primary lesion. Although Evans and Griffith [13] have obtained some promising results with implanted radium needles in a few cases, it is our opinion that a combination of interstitial therapy and external irradiation offers a better chance of cure. The combined method is advantageous because the damage to normal tissues is less when part of the dose is given with radium and part with roentgen rays. Hayes Martin [14] has reported 46 cases with proved metastatic cancer in cervical nodes living and well five years after the implantation of radon seeds into the nodes following the external administration of 5,000 to 8,000 r by the Coutard method.

Our own procedure, described in detail in two previous papers,[15] consists in a combination of the layer radium needle technic and the Coutard technic given

12. Wilson, H.: Results of the Treatment of Metastatic Carcinoma in the Cervical Lymph Nodes, Surg., Gynec. & Obst. **75**: 403, 1942.
13. Evans, M. B., and Griffith, H. D.: Dosage Control of Interstitial Radium Treatments by Direct Measurement of Skin Dosage-Rate, Brit. J. Radiol. **14**: 377, 1941.
14. Martin, H. E.: Treatment of Cervical Metastatic Cancer, Ann. Surg. **114**: 972, 1941.
15. Martin, C. L.: Treatment of Metastatic Cervical Lymph Nodes, Am. J. Roentgenol. **45**: 819, 1939; Treatment of Metastatic Cervical Lymph Nodes with Irradiation, Tr. Sect. Laryng. Otol. & Rhin. A. M. A., 1940.

simultaneously. The doses are large and the reactions rather severe. After healing has occurred the overlying skin may show some atrophy, and a diffuse fibrosis may be felt in the subcutaneous tissues when the treated area is large. In some cases the glands are reduced to hard, fibrosed nodules which remain quiescent, while in others they disappear completely. Patients sometimes complain of mild discomfort in the treated area of the type observed with any large scar, but most of them are quite comfortable. A moderate edema may persist about the treated area for a number of months because of the obstruction of the lymphatics by fibrosis. In a few cases the overlying skin has broken down several years after treatment, but for the most part these complications may be attributed to errors in technic and have been easily remedied by plastic surgery.

Tissue has not been routinely removed from lymph nodes for biopsy, but a study of the 19 cases of proved carcinoma presented in table 3 indicates the effectiveness of the method. Of the 138 cases reported in table 4 palpable nodes were present and treated simultaneously with the proved primary lesion in 58 instances and appeared and were treated after healing of a proved primary lesion in 80. All these nodes were hard and nontender, and many of them were considered inoperable. Only a few glands did not show decided regression after the reaction had subsided. In a few cases with multiple glands treatment was applied to both sides of the neck with a good primary result. The three year salvage of 21 per cent of all the patients treated and almost a third of the traced cases indicates that irradiation of metastatic cervical nodes deserves more consideration than it has been accorded in the past.

TABLE 3.—*Patients with Proved Squamous Cell Carcinoma in Cervical Nodes*

Site of Primary Lesion	Total No. of Cases	Cases Traced	Living and Well (Yrs.) 7	6	5	3	Well 3 or More Yrs.
Lip	8	6	1	..	..	1	2
Face	4	2	2	..	..	..	2
Undetermined	7	5	..	1	1	..	2
	19	13	3	1	1	1	6

TABLE 4.—*All Patients with Palpable Cervical Lymph Nodes Secondary to Squamous Cell Carcinoma of Face and Mouth, 1936 to 1943*

Primary Lesion	Total No. of Cases	No. Traced	Living and Well with No Palpable Nodes (Yrs.) 10	9	8	7	6	5	4	3	Well 3 or More Yrs.
Face	21	10	1	..	..	2	..	1	..	..	4
Lip	56	41	..	..	..	6	1	2	1	4	14
Floor of mouth	6	5	1	..	..	1	..	..	..	..	2
Cheek and palate	25	14	..	2	1	1	1	..	..	..	5
Tongue	25	18	..	..	..	2	..	..	..	1	3
Ear	3	2	..	..	..	..	..	..	..	1	1
	138	92	2	2	1	12	2	3	1	6	29

PALLIATION

Although the tables included in this paper have been compiled in an effort to illustrate the curative value of irradiation therapy, something should be said of its palliative value as well. It is our custom to give some type of therapy to every patient, regardless of the size or extent of his carcinoma, and the improvement produced cannot be evaluated in a paper dealing with cure rates. Even though these patients may not live three to five years, the eradication of large unsightly tumors and the relief of discomfort by the judicious use of irradiation therapy is still a worth while procedure.

SUMMARY

Cancer of the skin is common in the Southwestern states, where it constitutes approximately 30 per cent of all the malignant lesions treated. The incidence of cancer of the mouth is also high. The absolute three year cure rate in an unselected group of patients with advanced cancer of the face, lip, mouth and cervical nodes treated with irradiation was found to be approximately 25 per cent. The relative three year cure rate in a group of unselected advanced cases was above 40 per cent.

ABSTRACT OF DISCUSSION

DR. LYELL C. KINNEY, San Diego, Calif.: We are indebted to Dr. Martin for the presentation of his method of handling cervical lymph nodes. His absolute cures on a three year basis were 31.5 per cent, and on a five-year basis 26.3 per cent. My associates and I necessarily have had to follow the more traditional and orthodox method of treatment in our work because we have not had the large amount of radium in needles that Dr. Martin has had. In cervical lymph nodes which were small and movable, we have insisted that they be excised or that a radical neck dissection be made. With lymph nodes that were not movable and did not lend themselves to complete excision we proceeded much along Dr. Martin's course. We have given deep therapy followed with implantation of gold seeds. Likewise, in our intraoral work we are not using needles primarily. We are using intraoral roentgen radiation in addition to external radiation, following it where necessary with implantation of gold seeds to bring it up to our estimated dosage. We have found the intraoral roentgen radiation an extremely satisfactory method of handling intraoral cancers, particularly pharynx and tonsillar lesions, those of the cheek and the floor of the mouth. We follow closely Dr. Martin's technic on skin, eyelid and lip, and we have had practically no ocular damage. The important thing in Dr. Martin's paper is the fact that this must be always an all-out attack. No matter what the program is, whether it is a geometrical arrangement of small radium needles plus x-ray, or surgery, the program must be worked out at the onset of the case; the whole of the ammunition must be administered at once, because it is only once that you have the opportunity of treating these patients. We have found it disastrous to try to repeat the radiation therapy or to treat energetically recurrences that have been treated as Dr. Martin has indicated. On the other hand, as Dr. Martin suggests, a small amount of judicial irradiation will prove palliative in certain cases; but there is never another opportunity to cure them.

DR. HENRY ULLMANN, Santa Barbara, Calif.: I also see a high percentage of skin and lip cancers in Santa Barbara and I believe the same incidence will be found throughout the Southwest. I have, for many years, been treating with a half value layer of 0.6 mm. of aluminum at a target skin distance of 21 to 22 cm. and lately with a half value layer of 1.6 mm. of aluminum at 14 cm. My total dosage is the same—4,400 to 5,000 r depending on the size of the lesion—divided into two doses a week apart or three doses given every other day. The reaction is usually at its maximum during the second week after the last dose and the area is healed in six to eight weeks. Healing may be occasionally delayed. A mild erythema followed by a slow disappearance of the tumor has been seen several times, as has a complete clearing of the cutaneous reaction in six to eight weeks with the tumor still visible. The tumor disappears eventually, sometimes after a delay of another month. I also

use high voltage—a half value layer of 1.15 mm. of copper at a target skin distance of 50 cm. for large lesions. The cosmetic results are excellent. I usually give 4,500 to 5,000 r measured on the skin, as my high voltage dosage is controlled by a "Victoreen Intégron III" with the chamber on the skin in the center of the field. I have not used a thorium filter for superficial lesions. I am using gold radon seeds with and without the addition of roentgen rays, but Dr. Martin's results have about persuaded me to get some low intensity needles. Tonsillar and pharyngeal lesions are all treated with the roentgen ray. I should like to ask Dr. Martin how often he sees a late radiation breakdown following these superficial treatments. In cases of mine the incidence has been 3.6 per cent—I am never worried about these breakdowns, as they frequently heal, with less scar than before, in two to three months under a regimen of mild ointments. I use an aloe vera ointment. The breakdown may follow a severe sunburn or other trauma and occurrence is commonest during the second year post radiation. I use this same ointment during the postradiation reaction. I am hesitant about using metycaine hydrochloride ointment 5 per cent because of the number of patients whose skins are sensitive or become sensitive to the prolonged use of this drug. I almost never retreat a superficial lesion with radiation, and I also do not differentiate between a basal or squamous cell lesion in planning dosage. I treat eyelids in the same way but use phenacaine hydrochloride instead of cocaine as it is less drying. I, also, have seen no ocular injury. I should like to ask Dr. Martin how he protects the lens when the conjunctival lesion extends to the limbus.

DR. TIBOR DE CHOLNOKY, New York: As a surgeon I do not agree with Dr. Martin that the operation for cancer is easy and the roentgen therapy is difficult. Both are difficult, and a great deal of thought is required in deciding which to use. The results Dr. Martin has shown are gratifying, although most of his cases were squamous cell cancer of the exuberant variety, which is frequently a local growth, forming metastases late and responding readily to radiation therapy. In the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital the number of cases of basal and squamous cell carcinoma treated by irradiation is steadily decreasing, and the preference is for radical surgical excision. A statistical study of 1,062 cases published in the *Annals of Surgery* (122:88-101 [July] 1945) emphasizes the usefulness of surgical treatment of cancer of the face. In my experience the carefully executed surgical excision has resulted in better cosmetic results and a higher cure rate, even in more advanced cancer. Although radiation therapy controls some of the basal and squamous cell cancers of the face, the scars and deformities often require corrective surgical intervention. To perform a radical operation followed by reconstruction at the same time is preferable. I was glad to hear Dr. Martin comment favorably on electrocoagulation. It is a useful procedure in the treatment of recurrent and advanced cancer, but only in the hands of a surgeon, for such radical removal of cancerous tissue is often a major operation requiring immediate repair. Basal and squamous cell carcinoma of the skin of the face may be treated alike with wide tridimensional excision, not requiring dissection of the lymph nodes. However, squamous cell carcinoma of the vermilion border of the lip and the mucous membrane as well as that of the ear, with the exception of the protuberant variety, often requires dissection of the regional lymph nodes. Complete dissection of the cervical lymph nodes to prevent recurrence is indicated if the lymph node is involved. This type of dissection is a tedious operation requiring special training. The high percentage of cases which Dr. Martin has just reported as arrested by radiation therapy is a surprise to me. One rarely sees a patient with multiple involvement of the lymph nodes which was proved by biopsy survive five or ten years after radiation therapy. I have seen a large number of failures after radical operative intervention, but I believe that there are more following radiation therapy.

DR. L. HENRY GARLAND, San Francisco: I should like to ask Dr. Martin to comment on the incidence of pharyngeal contraction, trismus, and so forth, five years after heavy radium and roentgen irradiation around the upper portion of the neck. His percentage of cures in advanced cancer of the ear astounds me: 42 per cent of three year cures! Dr. N. J. Howard recently reviewed the cases of cancer of the ear seen at Stanford and the County Hospital here during the last sixteen years, and he found not only an extremely low percentage of cures, whether operated on or irradiated, but also a high percentage of metastases to the lymph nodes—about 60 per cent of cases, if followed long enough. Some of them developed very late. I should like to ask Dr. Martin in what percentage of his cases of cancer of the skin of the ear metastases to the lymph nodes developed. Will he tell us his incidence of recurrence in treatment of cancer of the skin of the ear with doses of around 4,000 or 6,000 r?

DR. CHARLES L. MARTIN, Dallas, Texas: All the doses of roentgen rays noted in the paper were measured in air. We occasionally see late ulcerations in radiation scars. If they do not respond to the local application of vitamin ointments they are removed surgically. Most of the cancers described in the paper are squamous cell carcinomas, but some of those on the face are of the basal cell variety, and some are mixed. All doses given are large enough to take care of squamous cell lesions. Cancers of the conjunctiva did not extend out over the lens, which was shielded. When the lens is included in the treatment field cataracts usually appear at a later date. It is true that some patients are sensitive to metycaine hydrochloride ointment, but it has been useful in the treatment of temporary painful radiation reactions on the lip. Dr. de Cholnoky's critical discussion is typical of most surgeons' reaction to our work, and I am quite accustomed to it. On the whole our cosmetic results are better than those produced by surgical procedures, and I will be glad to match results with him, scar for scar. His objection to the use of electrosurgery is not well founded, because radiologists were using this method long before it was discovered by the surgeons. My father taught me to use it years ago, and I think we do it rather well. His statement that he has never seen a metastatic cervical lymph node cured by irradiation is surprising, since a sizable number of five year cures in such cases has been reported by the Memorial Hospital in his own city. I hope I may have a chance to show him some of our cases. If they are not cured they have at least remained free of all evidence of the disease for long periods of time. Our treatment of the neck has produced none of the contractions of the pharynx or larynx mentioned by Dr. Garland. Fibrosis of deep seated lesions in the cheek sometimes closes the mouth so tightly that it cannot be opened. No efficient treatment of this complication has been devised in our clinic. I can certainly agree with Dr. Garland's observation that advanced cancer of the ear is poorly treated in most clinics. After growth extends beyond the ear surgical intervention alone has little to offer, and we are enthusiastic about the use of low intensity radium needles plus electrosurgery.

The Gastroenterologic Aspects of Psychosomatic Medicine.—A normal digestive tract cannot have continuous emotional stimuli reach it day after day, week after week, month after month, and even year after year, and still remain normal without showing evidence of physiologic and structural change. We, however, have failed to recognize these changes. Increasing clinical experience, with adequate laboratory and roentgenologic evidence, must show some deviation from the normal if a patient has symptoms. A normal digestive tract, working harmoniously with a normal and nonirritating diet, should give no symptoms. Symptoms arise only as the result of inflammatory and infectious disease, poisons, parasites, neoplastic changes, dietary indiscretions or abnormal nerve impulses. Any gastroenterologist with a broad clinical experience will honestly admit that the majority of his patients have a symptom complex for which no organic basis can be found. We have been much too busy in the laboratory developing diagnostic criteria, making test tube diagnoses, using chemotherapy and antibiotic therapy and forgetting that we are treating a patient who is in a troubled world with its many insults and who is ill because he has a maladjusted emotional household.—Portis, Sidney A.: *Rev. Gastroenterol.*, June 1947.

THYROTOXIC CRISIS

An Analysis of the Thirty-Six Cases Seen at the Massachusetts General Hospital During the Past Twenty-Five Years

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Thyrotoxic crisis ("thyroid storm"), even with improved methods of treating hyperthyroidism, is by no means an extinct phenomenon. Of a total of 2,033 thyrotoxic patients admitted to the wards of the Massachusetts General Hospital in the past twenty-five years, 36 have experienced a toxic crisis. We have thought it worth while to place the analysis of these cases on record since so few [1] of the opinions expressed in the literature of thyroid storm are based on experience with large series of patients.

Twenty-five of these storms (hereinafter called "surgical") have followed the 1,383 operations performed on these patients; the remaining 11 storms (hereinafter called "medical") have represented an acute breakdown of thermal regulation in patients suffering from fulminating thyrotoxicosis. Eight of the medical and 16 of the surgical storms resulted in the death of the patient.

In our view thyroid crisis is not strictly a complication of thyrotoxicosis but an intrinsic feature of the disease. Like ketosis in diabetes mellitus, it is the inevitable denouement of the disease if it be severe enough. Our conception of storm is essentially that it represents the inability of the patient any longer to adjust to the strain imposed by the hyperthyroidism. It might be called decompensated thyrotoxicosis.

We are not in agreement with those who would attempt to draw a fundamental distinction between the medical and the surgical storms. Like diabetic acidosis, storm may be initiated or its onset hastened by intercurrent complicating factors such as infection and trauma (operative or otherwise). Therefore, our definition of storm is a life-endangering augmentation of the symptoms of thryotoxicosis in which the patient's response is out of proportion to the exciting stimulus, whatever its nature (thyroidectomy, pneumonia or wound sepsis). We insert the qualifying adjective "life-endangering" to exclude the mild to moderate febrile reactions which almost invariably follow thyroidectomy in patients whose metabolic rate has not been brought to a normal level. Such reactions differ only quantitatively from the thyroid crisis. They are storms in miniature.

The symptomatology which develops as the denouement is approached depends on the relative vulnerability of the great bodily systems (central nervous system, cardiovascular system and hepatorenal system) subjected to stress by the thyrotoxicosis. The terminal clinical signs and symptoms and the observations at necropsy emphasize a breakdown in one or more of these systems. There are no pathognomonic features common to all cases.

We agree with Buxton [2] that thyroid crisis is a syndrome of many facets and not a specific entity. Death in this state results from the various complications which are associated with the increased metabolism, and which are often inadequately comprehended and treated.

Table 1 summarizes the number of hospital admissions for thyrotoxicosis, the number of thyroidectomies performed and the number of medical and surgical storms at the Massachusetts General Hospital in the past 25 years.

The season of the year exerted but little influence on the frequency of thyroid crisis. Our data do not support the finding of Crile [3] that storm occurs 2.4 times as commonly during the hot summer months as during the remainder of the year. We have found a rather uniform distribution of crises during the various seasons. If anything, storms have been less frequent during the hot than during the cold months.

TABLE 1.—*Summary of Data*

Year	Admissions for Thyrotoxicosis	Operation	Surgical Storms	Medical Storms
1921	45	39	0	1
1922	81	48	0	0
1923	75	51	1	0
1924	80	67	1	0
1925	71	55	1	0
1926	68	69	0	0
1927	57	41	0	0
1928	56	55	0	0
1929	72	62	1	0
1930	87	61	1	0
1931	67	54	1	0
1932	70	60	1	2
1933	61	55	4	0
1934	95	78	2	0
1935	99	68	1	0
1936	82	57	3	1
1937	129	89	1	1
1938	106	76	0	0
1939	137	81	1	1
1940	105	45	1	1
1941	108	53	1	0
1942	87	31	2	0
1943	77	36	0	0
1944	74	48	1	2
1945	69	34	0	1
1946	..	..	1	1
Total	2,033	1,383	25	11

Of the 11 medical storms, 1 occurred in a man and 10 in women; of the surgical storms, 8 occurred in men and 17 in women. The 1:3 ratio of males to females experiencing crisis is lower than the ratio for the incidence of the disease in the two sexes.[4] This accords well with the clinical impression that thyrotoxicosis in the male is likely to be severer than that in the female.

Eight of the medical and 12 of the surgical storms occurred in patients with toxic diffuse goiter; 3 of the medical and 13 of the surgical storms in patients with toxic nodular goiter. The relative toxicity of the two types of goiter, as gaged by the basal metabolic rate

From the Thyroid Clinic, Massachusetts General Hospital.
Henry P. Walcott fellow, Harvard University (Dr. McArthur).

1. Bayley, R. H.: Thyroid Crisis, Surg., Gynec. & Obst. **50**: 41-47, 1934. Fiske, F. A.: Thyroid Crisis as a Post-Operative Complication, Tr. Am. Therap. Soc. **40**: 133-139, 1940. Lahey, F. H.: The Crisis of Exophthalmic Goiter, New England J. Med. **199**: 255-257, 1928. Ransom, H. K., and Bayley, R. H.: Thyroid Crisis, West. J. Surg. **42**: 464-475, 1934. Snowden, R. R.: The Treatment of Thyroid Crisis, Tr. Am. Clin. & Climat. A. **52**: 225-233, 1936. Waldenstrom, J.: Acute Thyrotoxic Encephalo- or Myopathy: Its Cause and Treatment, Acta med. Scandinav. **121**: 251-294, 1945.

2. Buxton, R. W.: The Problem of Thyroid Crisis, Surgery **16**: 748-755, 1944.

3. Crile, G.: Management of the Patient with Hyperthyroidism: Preoperative and Postoperative Care, S. Clin. North America **16**: 1051-1059, 1936.

4. Means, J. H.: The Thyroid and Its Diseases, Philadelphia, J. B. Lippincott Company, 1937.

on admission and the amount of weight lost, was almost identical. The mortality rates for the storms occurring in patients with diffuse or nodular goiter were likewise almost the same.

The duration of the thyrotoxicosis in patients having a toxic crisis is indicated in table 3. The majority of the storms occurred in patients with thyrotoxicosis of relatively short duration.

The nutritional state of these patients is shown in table 4, which summarizes the amount of weight lost between the time of onset of the thyrotoxicosis and the time of admission to the hospital. The majority of the patients were thin, some so emaciated that they presented the appearance of progressive muscular atrophy. There was surprisingly little evidence of gross vitamin deficiency, except for redness and smoothness of the edges of the tongue in a few cases.

The degree of toxicity may be estimated in another way by considering the basal metabolic rate at entry. Six of the patients with medical storm were too ill to have their metabolic rates determined; the average

TABLE 2.—*Age Incidence of Thyroid Storms*

Medical		Surgical	
Age	No.	Age	No.
0 to 9	0	0 to 9	0
10 to 19	0	10 to 19	4
20 to 29	1	20 to 29	5
30 to 39	2	30 to 39	2
40 to 49	3	40 to 49	1
50 to 59	2	50 to 59	6
60 to 69	3	60 to 69	6
70 to 79	0	70 to 79	1
Average age 49.4 years		Average age 46 years	

TABLE 3.—*Duration of Symptoms of Thyrotoxicosis*

Duration, Yrs.	Number of Patients with Medical Storm	Number of Patients with Surgical Storm
Less than 1	4	7
1 to 2	5	8
2 to 5	1	6
5 to 10	1	2
Over 10	0	1
Uncertain	0	1

rate of the remaining five was + 70 per cent. The metabolic rate was not determined in 1 patient in whom a toxic crisis developed after an emergency operative intervention for intestinal obstruction; the average admission rate of the other patients in whom surgical storm developed was + 49 per cent. The frequency distribution for both groups as a whole is shown in table 5. It will be noted that the patients experiencing medical storm were much more toxic than those having surgical storm, both by the criteria of the amount of weight lost and the basal metabolic rate.

The types of therapy received by these patients prior to their admission to the hospital is summarized in table 6. Only 11 of the 36 patients were receiving iodine. All 5 of the previously iodinized patients who had medical storms and 4 of the 6 iodinized patients who had surgical storms were severely toxic at entry despite the iodine therapy.

The incidence of severe complicating diseases and their nature is presented in table 7. Cardiac complications were by far the commonest. Twenty-three of the 36 patients had some type of heart disease, further complicated by congestive failure in 13 instances. That these complications exerted a significant, often decisive, influence on the survival of the patients is clear from table 9, which shows the average age and incidence of serious complicating diseases in survivors and fatalities from storm. Acute toxic psychosis proved to be an ominous sign. Two patients who exhibited this phenomenon preoperatively later died of storm.

TABLE 4.—*Amount of Weight Lost*

Pounds	Number of Patients with Medical Storm	Number of Patients with Surgical Storm
0 to 10	0	4
11 to 20	0	5
21 to 30	1	4
31 to 40	2	4
41 to 50	2	2
51 to 60	1	0
61 to 70	1	0
71 to 80	1	0
Uncertain	3	3

Autopsies were obtained in 12 of the 24 patients who died. The significant pathologic findings are summarized in table 8. Besides the high incidence of cardiac complications, the autopsies revealed the frequency and importance of pulmonary complications. A surprising finding was the paucity of pathologic changes in the liver. We have no doubt that hepatic

TABLE 5.—*Basal Metabolic Rate on Admission*

Basal Metabolic Rate	Number of Medical Storms	Number of Surgical Storms
Not done	6	1
0 to + 9%	0	1
+ 10 to + 19%	0	0
+ 20 to + 29%	0	7
+ 30 to + 39%	0	1
+ 40 to + 49%	0	3
+ 50 to + 59%	1	3
+ 60 to + 69%	2	0
+ 70 to + 79%	0	0
+ 80 to + 89%	2	2
+ 90 to + 99%	..	1

damage occurs frequently in patients experiencing storm. Foss, Hunt and McMillan, for example, demonstrated central necrosis and fatty degeneration in the livers of 10 of 11 patients who died of thyrotoxic crisis.[5]

In the majority of instances it was possible to determine a precipitating factor which provoked the crisis in these dangerously depleted patients. These factors are summarized in table 10. In the group of medical storms, iodine withdrawal appeared to be the

TABLE 6.—*Therapy Prior to Hospital Admission*

Medical		Surgical	
Treatment	No. of Patients	Treatment	No. of Patients
None	6	None	15
Iodine	4	Iodine	6
Iodine and x-ray	1	Quinine	1
		Sedation	1
		Uncertain	2

commonest precipitant of crisis. As has been emphasized before,[4] this phenomenon argues strongly against the concept of "iodine refractoriness." Digitalis intoxication and streptococcic pneumonia progressed rapidly into thyroid crisis in 2 instances.

5. Foss, H. L.; Hunt, H. F., and McMillan, R. M.: The Pathogenesis of Crisis and Death in Hyperthyroidism, J. A. M. A. 113: 1090-1094 (Sept. 16) 1939.

The majority of surgical storms followed thyroidectomy. These crises were manifest four to sixteen hours (average eight hours) after the operation. Storms blowing up longer than sixteen hours after thyroidectomy proved to be due to bronchopneumonia or wound sepsis. In 3 patients who weathered the toxic crisis after surgical intervention has been analyzed separately. Except for 1 thyrotoxic patient who was admitted with acute intestinal obstruction and had a storm following the lysis of adhesions, all these patients were prepared for operation with rest in bed plus either iodine (21 cases) or iodine and thiouracil (2 cases). On these regimens an increase in weight occurred in 10 patients; the weight remained stationary in 2, and 10 actually lost weight. The same trend is reflected in the basal metabolic rates and pulse rates. The way in which the response to treatment affected survival is indicated in table 11.

Table 7.—*Incidence of Complicating Disease*

Medical Storms	
Coronary arteriosclerotic heart disease	2
Without congestive failure	1
With congestive failure	1
Hypertensive heart disease	2
Without failure	1
With failure	1
Hypertensive and coronary heart disease	2
With failure	2
Congestive failure (nature or underlying disease not established)	2
Bronchopneumonia	2
Acute pelvic abscess	1
Bronchiectasis	1
Surgical Storms	
Coronary arteriosclerotic heart disease	4
Without congestive failure	3
With congestive failure	1
Hypertensive heart disease	4
Without failure	3
With failure	1
Hypertensive and coronary heart disease	4
With failure	4
Chronic rheumatic heart disease	1
With failure	1
Acute rheumatic pancarditis	1
Pyelonephritis	2
Bronchial asthma	1
Acute intestinal obstruction	1
Rheumatoid arthritis	1
Acute toxic psychosis	2

Subtotal thyroidectomy was performed in 13 instances and hemithyroidectomy in 11. The type of anesthesia employed did not materially affect the postoperative course. The oncoming storm could not be predicted accurately from the intraoperative reaction, although many of these patients showed alarming elevations of pulse rate and blood pressure during the operation.

It is clear from table 11 that there was a significantly greater toxicity in patients who died of postoperative storm than in survivors. Their initial loss of weight was almost three times as great and on admission their basal metabolic rates were higher. Serious complicating diseases were three times as common in the fatal cases. The average gain in weight during the preoperative period in both groups was 2½ pounds (1.1 Kg.); a relatively insignificant increment in the depleted group later to die of storm. The preoperative basal metabolic rate levels were almost identical in the two groups, but the pulse rate was still appreciably elevated preoperatively in those whose storms terminated fatally. The difference in the number of fatalities following hemithyroidectomy and subtotal thyroidectomy is not significant.

Table 9.—*Influence of Age and Serious Complicating Diseases on Survival*

	Number	Average Age	Number with Complicating Diseases
Survivors	12	43	5
Fatalities	24	49	19

immediate postoperative period a crisis developed when hemorrhage requiring secondary suture occurred subsequently.

As has been indicated earlier, the toxicity of patients in whom medical storm developed was far greater than that of patients with surgical storm. It was therefore difficult to determine the efficacy of any but emergency treatment in the medical group. To study the extent to which the response to hospital treatment influenced the outcome of storm, the data on the patients who had a

Table 8.—*Pathologic Findings in Autopsies of Twelve Patients Who Died of Thyroid Storm*

Heart	
Coronary arteriosclerosis	2
Cardiac hypertrophy	6
Chronic rheumatic heart disease	2
Acute rheumatic pancarditis	1
Acute focal myocarditis with fatty degeneration of the myocardium	1
Liver	
Chronic passive congestion	2
Central necrosis	1
Fatty metamorphosis	1
Lungs	
Bronchopneumonia	8
Bronchitis	5
Tracheitis	3
Pulmonary edema	5
Atelectasis	3
Miscellaneous	
Acute and chronic peritonitis with acute pelvic abscess	1
Acute mediastinitis	2

We have little to add to the classic descriptions of the clinical appearance of patients in thyroid storm. The "activated" type of storm characterized by restlessness progressing to delirium, tachycardia, vomiting and diarrhea, dehydration, jaundice on occasion and a fever rapidly mounting to 106 F. or higher was the commonest variety in our series. Two of our patients presented the classic appearance of the "apathetic" storm characterized by extreme prostration with muscular hypotonia, mental apathy and a temperature rarely exceeding 101 F. It is not apparent from our data on what this profound difference in response to thyrotoxicosis depends.

Patients whose crises were initiated by acute pyogenic infection exhibited the leukocytosis and neutrophilia appropriate to the infection. Those whose storms were provoked by trauma, such as thyroidectomy, had a normal white blood cell count.

The fundamental pathologic physiology of thyroid crisis (or indeed, of hyperthyroidism) being unknown, a complete and rational therapeusis has not yet been devised. The first patient in our series was treated with antipyretics and hypnotics. Iodine has been employed in all subsequent cases together with a variety of adjuvants such as sedatives and oxygen. In the middle thirties the important role of the liver in thyrotoxicosis became appreciated, and intravenous dextrose was added to the therapeutic regimen. Vitamin preparations began to be administered in the late thirties. Our last 4 patients have been treated with both thiouracil and iodine. An initial dose of 0.6 Gm. of thiouracil

was followed in one hour by 30 minims (2 cc.) of saturated solution of potassium iodide, and the two medicaments were continued simultaneously thereafter. Our last 3 patients have been treated with supplementary injections of adrenal cortical extract in doses adequate to combat an addisonian crisis. We have had

TABLE 10.—*Precipitating Factors in the Development of Thyroid Storm*

Medical Storms		Surgical Storms	
Streptococcic pneumonia	1	Thyroidectomy	14
Digitalis intoxication	1	Lysis of adhesions	1
Iodine withdrawal	4	Postoperative hemorrhage and secondary suture	3
		Wound sepsis and mediastinitis	2
		Bronchopneumonia	6

no experience with spinal anesthesia as a mode of treatment. Since the gravity of thyroid storm precludes the performance of a controlled therapeutic experiment, we are unable to subject these data to critical evaluation.

REPORT OF CASES

The following case history of a patient who survived an apathetic storm is reported to illustrate the therapy employed in the most recent crisis which we treated.

CASE 1.—A woman aged 29 was admitted to the Massachusetts General Hospital on March 18, 1946, complaining of intractable vomiting and diarrhea of two weeks' duration. She had been having fifteen to twenty bowel movements each day and five to eight at night. She had vomited everything she had eaten. One week prior to admission there developed in the upper part of the abdomen pain which radiated around both costal margins.

She had been extremely nervous during her first pregnancy three years previously and for several months after delivery. The nervousness gradually subsided spontaneously but recurred two years prior to admission, together with fatigue and loss of 25 pounds (11 Kg.) despite a good appetite. She again recovered without treatment and regained her lost weight. One year prior to admission her friends began to comment on the increased prominence of her eyes. Once more she became fatigued and nervous and lost 15 pounds (6.8 Kg.). She experienced episodes of vomiting and diarrhea about once a month, of which the episode leading to hospital admission was the severest.

On admission the temperature was 100.4 F. per rectum, the pulse rate 120, the respiratory rate 24 and the blood pressure

TABLE 11.—*Factors Influencing Survival from Thyroid Storm (Surgical)*

	Number	Average Age	Average Weight Loss, Lbs.	Serious Complicating Diseases	Average Admission B. M. R., %	Average Preoperative B. M. R., %	Aver. Weight Gained in Hospital, Lbs.	Average Pulse Rate Preoperatively	Hemithyroidectomy	Subtotal Thyroidectomy
Survivors	8	44	11	4	+40	+32	2½	120	3	5
Fatalities	16	47	30	12	+50	+56	2½	135	8	8

130 systolic and 80 diastolic. There was moderate proptosis of the eyes with lid lag. The thyroid was diffusely enlarged to three times the normal size. The heart was not enlarged. A grade 3 systolic murmur was audible over the entire precordium. The pulmonary second sound was louder than the aortic second sound. There was diffuse tenderness in the epigastrium without spasm. The white blood cell count was 12,700 and the urinalysis revealed normal conditions. An electrocardiogram showed the tachycardia to be of sinus origin. A surgical consultant ruled out an acute condition in the abdomen requiring emergency surgical intervention, and a diagnosis of hyperthyroidism was made. She was given phenobarbital, codeine, acetylsalicylic acid and soluble pentobarbital. When the patient was seen several hours later by a thyroid consultant, she was no longer agitated but extremely apathetic and weak. Her color was gray, and she appeared to be in shock. There was a faint icterus of the scleras. The pulse rate had increased to 180, and the blood pressure had fallen to 100 systolic and 60 diastolic. She was placed in an oxygen tent and given thiouracil 0.4 Gm. immediately and 0.2 Gm. every six hours; 30 drops (2 cc.) of potassium iodide one hour after the first dose of thiouracil; 20 cc. of whole adrenal cortical extract intravenously and 5 cc. every hour intramuscularly. A 250 cc. transfusion of plasma, 600 cc. of a solution of 25 per cent dextrose in water with added vitamins and 750 cc. of isotonic solution of sodium chloride were given during the next twenty-four hours.

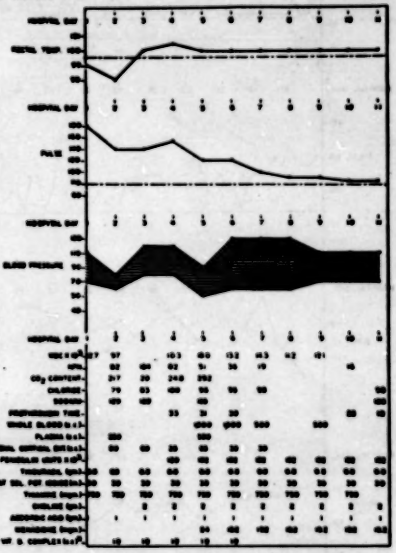

Chart 1 (case 1).—Clinical course and treatment employed during apathetic thyroid storm. * Each 1 cc. of vitamin B complex contains: thiamine 20 mg., riboflavin 6 mg., calcium pantothenate 2 mg., pyridoxine 1 mg., nicotinamide 40 mg., choline 10 mg. and para-aminobenzoic acid 5 mg.

Forty-eight hours after admission the patient appeared stronger. Her urinary output, which had been virtually nil since entry, now began to increase. There was unmistakable scleral icterus. The blood pressure, which had fallen to 74 systolic and 50 diastolic, had risen to 110 systolic and 60 diastolic, and the pulse rate had slowed to 148 per minute. There were slightly impaired resonance and decreased breath sounds at the base of both lungs. She was thought to have early bronchopneumonia. The administration of penicillin in a dosage of 24,000 units every three hours was begun intramuscularly and continued for eight days.

Three days after admission the patient became restless, nauseated and slightly distended. She began to pass large amounts of fresh clotted blood rectally and continued to do so for the next twenty-four hours. The blood pressure fell to 100 systolic and 50 diastolic, and the pulse rate rose to 175. She was given two 250 cc. plasma transfusions and six 500 cc. whole blood transfusions during the next five days. Menadione was admin-

istered intravenously. Blood-streaking of the stools continued for three days and then disappeared. As the patient's condition improved she appeared more thyrotoxic. Thiouracil 0.2 Gm. every six hours and saturated solution of potassium iodide, 10 minims (0.6 cc.) three times a day, were continued. A basal metabolic rate on the twelfth hospital day was + 16 per cent. On the twentieth hospital day the temperature suddenly rose to 102.6 F. The tissues about two gluteal pressure sores appeared indurated, and the administration of penicillin was resumed with prompt defervescence. The patient gained 5 pounds

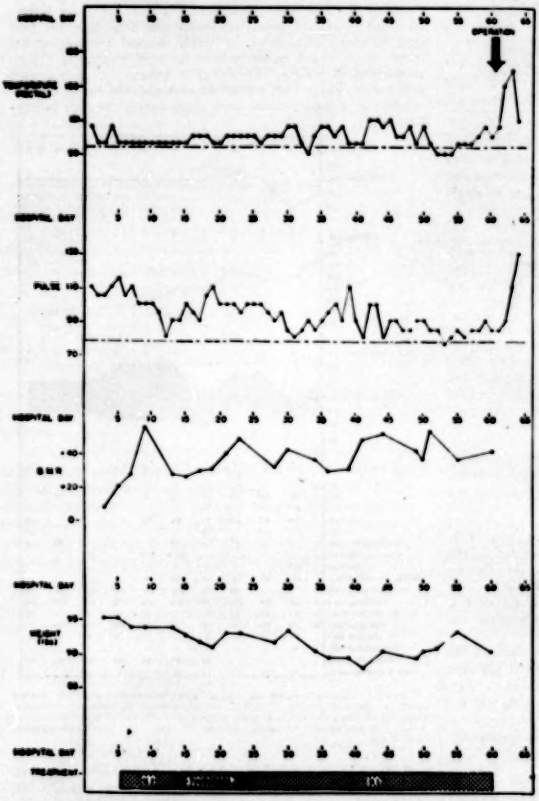

Chart 2 (case 2).—Clinical course to fatal termination of thyrotoxic crisis.

(2.3 Kg.), and the basal metabolic rate fell to — 13 per cent. Surgical intervention had to be postponed temporarily because of the gluteal abscesses. These were treated conservatively with debridement and nitrofurazone (Furacin) packs. Right hemithyroidectomy was performed five weeks after admission and left hemithyroidectomy one week later. She was discharged home on the fifty-first hospital day.

The aims of treatment in this instance were: (1) prevention of tissue anoxia by supplying continuous oxygen; (2) suppression of the manufacture of new thyroid hormone by giving thiouracil; (3) inhibition of the discharge of thyroid hormone from the thyroid by the administration of iodine; (4) protection of the liver by giving dextrose and vitamins of the B complex; (5) correction of abnormalities in electrolyte concentration and in the volume of plasma and extracellular fluids; (6) compensation for possible adrenal exhaustion by administering whole adrenal cortical extract;[6] (7) limitation of infection by penicillin therapy, and (8) reduction of the prolonged prothrombin time with vitamin K. Therapy in storm should be individualized and directed toward the correction of all recognizable abnormalities stemming from the hypermetabolism.

Improvement in the mortality rate of medical storm can only come about as a consequence of increased alertness of the members of the profession in recognizing thyrotoxicosis and initiating the appropriate treatment without delay. But an immediate improvement in the mortality rate of surgical storm can reasonably be anticipated once the physician has learned how to utilize thiouracil and related drugs to the maximum advantage. It is now apparent from clinical experience with thiouracil that the basal metabolic rate can be brought to any desired level if administration of the drug is continued long enough. Patients who have been rendered euthyroid with this drug should display the intraoperative and postoperative courses of a normal person. We have not seen a thyroid crisis in any patient properly prepared for surgical intervention with thiouracil.

The following case is one of the first in which we employed thiouracil. At that time the use of the drug and in particular its relation to iodine were not understood as they are today.

Case 2.—A woman aged 60 was admitted to the Massachusetts General Hospital in the autumn of 1943 complaining of progressive weakness, exertional dyspnea and substernal pressure, nervousness, palpitation, excessive perspiration and the loss of 15 pounds (6.8 Kg.) in nine months. One month prior to admission she entered another hospital, where she was found to have a rapid pulse rate and was started on strong solution of iodine. She experienced moderate relief of her symptoms but never regained weight or strength and remained in bed at home until admission to this hospital.

She appeared poorly nourished and overactive. The skin was warm and moist, and there was a fine tremor of the extended fingers. The tongue was slightly reddened and smooth at the edges. The thyroid was enlarged three to four times the normal size and was nodular and rubbery in consistency. The heart was slightly enlarged to the left. The blood pressure was 160 systolic and 80 diastolic. A grade 2 systolic murmur was audible in the aortic area. There was tenderness in the periarticular tissues of the right knee without limitation of motion.

6. Pemberton, J. deJ.: Postoperative Hyperthyroid Reactions, West. J. Surg. 44: 521-527, 1936. Koelsche, G. A., and Kendall, E. C.: The Relation of the Suprarenal Cortical Hormone to Nitrogen Metabolism in Experimental Hyperthyroidism, Am. J. Physiol. 113: 335-349, 1935. Lowenstein, B. E., and Zwemer, R. L.: Resistance of Rats to Potassium Poisoning After Administration of Thyroid or of Desoxycorticosterone Acetate, Endocrinology 33: 361-365, 1943.

Laboratory data: Examination of the blood revealed that the red blood cell count was 3,800,000; the hemoglobin, 11.0 Gm., and the white blood cell count 4,500, with a differential count of 59 per cent neutrophilic polymorphonuclear leukocytes, 36 per cent lymphocytes, 6 per cent monocytes and 4 per cent eosinophils. The corrected sedimentation rate[7] was 0.22 mm. a minute. The urine contained 5 to 6 white cells per high power field and many bacteria, which on culture proved to be Escherichia coli. The electrocardiogram was within normal limits except for sinus tachycardia.

Clinical diagnoses of hyperthyroidism, rheumatoid arthritis and arteriosclerosis were made. The administration of potassium iodide was continued during the first two weeks of rest in bed in the hospital, and basal metabolic rates of + 21, + 27 and + 27 per cent were obtained. The patient's weight declined 2 pounds (0.9 Kg.) The iodine dosage was then withdrawn and the administration of thiouracil begun in a dosage of 0.2 Gm. three times a day and continued for ten days. On this regimen the basal metabolic rate gradually rose to + 46 per cent and the weight remained stationary. Thiouracil was then omitted, and treatment with iodine resumed. The basal metabolic rates thereafter fluctuated erratically between + 30 and + 54 per cent, and the patient's weight did not vary materially. Progress was further delayed by an infection of the upper part of the respiratory tract. Three 500 cc. transfusions of whole blood were given.

Eight weeks after admission it was decided that nothing was to be gained by further delay. Operative intervention was attempted under local anesthesia. The patient became uncontrollable. The anesthesia was changed to intratracheal ether, and a rapid hemithyroidectomy was performed. The patient never responded well postoperatively. She carried on ceaseless activity and groaning, although at times she seemed to recognize relatives and would answer simple questions. On the morning after the operation a faint but distinct jaundice appeared. Respirations became labored and irregular. The pulse exhibited runs of bigeminy. The temperature gradually rose to 104 F. (rectal) and the pulse rate to 130; she died fifty-two hours after the operation in thyroid storm.

In retrospect it was clearly unreasonable to anticipate that thiouracil would exert a therapeutic effect in this iodized patient short of eight weeks at the least. In spite of the rising metabolic rate, thiouracil therapy should have been continued until its effect had been obtained.

By continuing to administer thiouracil until the patient has shown an amelioration of the symptoms of thyrotoxicosis, a consistent gain in weight and a fall in the basal metabolic rate to the level of 0 to + 10 per cent, we have been able to minimize the postoperative febrile reaction to the vanishing point.

The following case report describes the course of a patient who by all criteria (age, nutritional state and serious complicating disease) should have succumbed to thyroid crisis either preoperatively or postoperatively. That she was brought safely through the operation despite a succession of serious mishaps (iodine idiosyncrasy, digitalis intoxication and bronchitis due to Esch. coli) is attributable to tenacity in continuing thiouracil therapy and refusal to undertake surgical intervention until the utmost benefit had been extracted from medical measures.

7. Rourke, M. D., and Ernstene, A. C.: Method for Correcting Erythrocyte Sedimentation Rate for Variations in Cell Volume Percentage of Blood, J. Clin. Investigation 8: 545-559, 1930.

CASE 3.—A woman aged 74, a widow, was admitted to the Massachusetts General Hospital on Oct. 2, 1945, complaining of weakness, dyspnea, palpitation, increased bowel activity to three or four movements a day, and the loss of 30 pounds (13.6 Kg.) despite a good appetite during the ninth months prior to entry.

On examination the patient appeared drawn and emaciated, weighing 74 pounds (33.6 Kg.). She was pale, orthopneic and emotionally unstable. The heart was considerably enlarged to the left. The rhythm was regular, and no murmurs were audible. The blood pressure was 240 systolic and 100 diastolic. Moist rales were audible at the pulmonary bases. The skin was velvety but not especially moist. There were no gross indications of vitamin deficiency. The thyroid was small, deep-seated and firm in consistency. The lower poles of the gland could not be felt. No bruit or thrill could be made out.

Laboratory observations: The red blood cell count was 3,850,000; the hemoglobin 11.8 Gm., and the white blood cell count 7,000, with a differential count of 73 per cent neutrophils,

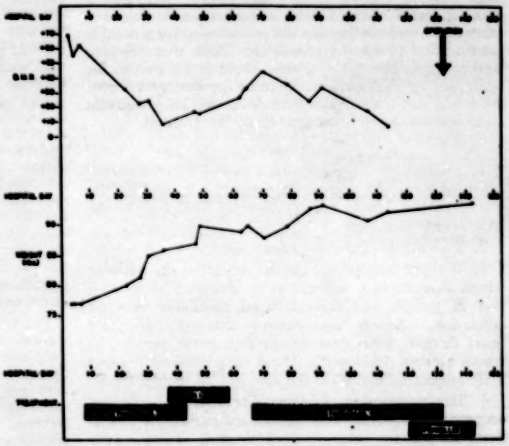

Chart 3 (case 3).—Clinical course through operative intervention and survival.

21 per cent lymphocytes, 5 per cent monocytes and 1 per cent eosinophils. Urinalysis revealed 1 plus albumin, 100 white cells and many bacteria. Basal metabolic rates of + 69, + 57 and + 62 per cent were obtained.

Clinical diagnoses of hyperthyroidism and hypertensive cardiovascular disease with mild congestive failure were made.

Digitalization was maintained, and the administration of thiouracil was begun in a dosage of 0.2 Gm. every eight hours. At the end of one month the patient had gained 9 pounds (4.1 Kg.) and the metabolic rate had fallen to + 9 per cent. Potassium iodide therapy was added to involute the gland prior to operative intervention. After three days there developed a temperature of 101.6 F., coryza and slight swelling of the submaxillary glands. It was thought that the symptoms were attributable to thiouracil toxicity, and the administration of thiouracil was discontinued. Iodine alone was given for three weeks, but the coryza persisted. Iodine was then withdrawn to determine whether the coryza was ascribable to this drug. There was a gradual subsidence of the fever and the nasal congestion. Thiouracil was resumed one month after its omission. Although the patient had gained 2 pounds (0.9 Kg.) during this episode, the basal metabolic rate had risen to + 45 per cent. As might have been anticipated, the metabolic response to thiouracil was slower the second time. Six weeks of

thiouracil therapy was required to lower the basal metabolic rate from + 45 to + 8 per cent. As the basal metabolic rate fell, the patient's course was further complicated by digitalis intoxication and a bronchitis due to Esch. coli, which responded to intensive therapy with aerosol penicillin. When she was finally operated on four months after entry, she weighed 90 pounds (40.8 Kg.). A small multinodular goiter was removed under local anesthesia. There was considerable fluctuation in the blood pressure during the operation, but the pulse remained stable. No febrile reaction occurred postoperatively, and convalescence was smooth.

Many of the articles in the literaure of thyroid crisis leave one with the impression that storm is an essentially capricious phenomenon, likely to occur after relatively trivial surgical procedures in patients who exhibit minimal toxicity. With this conception we profoundly disagree. Storm warnings, often not heeded except in retrospect, were displayed by every one of our patients. Thyroid crises occurred in patients with severe thyrotoxicosis who were nutritionally depleted, who suffered from serious complicating diseases and in whom therapy did not accomplish a notable amelioration of the thyrotoxicosis. Now that effective medical measures are available, there is no excuse for operating on such patients (except for emergency procedures) until the thyrotoxicosis and its metabolic consequences have been completely neutralized.

CONCLUSIONS

1. Thyrotoxic crisis ("thyroid storm") has occurred 36 times in 2,033 thyrotoxic patients admitted to the wards of the Massachusetts General Hospital in the past twenty-five years.

2. Two thirds of the 36 patients died.

3. Without exception, storms occurred in patients whose thyrotoxicity was great, as indicated by decided loss in weight and a high basal metabolic rate on admission. Severe complicating diseases, especially heart disease, were common in thyrotoxic persons in whom a crisis developed. These complications exerted a significant influence on the survival of such patients.

4. The postmortem findings disclosed the frequent occurrence of cardiac and pulmonary pathologic conditions in patients who died of thyroid storm. Surprisingly few patients had any demonstrable hepatic lesions.

5. Precipitating factors identifiable as provocative of thyrotoxic crisis included thyroidectomy (14 cases), pneumonia (7), iodine withdrawal (4), postoperative hemorrhage and secondary suture (3), wound sepsis (2) and digitalis intoxication (1).

6. The likelihood of a patient's weathering a postoperative crisis could be predicted accurately in retrospect by his response to preoperative treatment. Patients whose thyrotoxic symptoms were not ameliorated preoperatively and who failed to gain weight did not survive thyroid crises.

7. The therapy of a patient in storm should be individualized to correct all the recognizable abnormalities stemming from the hypermetabolism, as illustrated by the report of a recent case to show the treatment currently being employed.

8. The advent of thiouracil and related goitrogenic agents promises a significant reduction in the incidence of postoperative thyroid storm, once the necessity for continuing the administration of antithyroid drugs until the patient is rendered euthyroid has been grasped.

Clinical Notes, Suggestions and New Instruments

TRIPELENNAMINE "PYRIBENZAMINE" OINTMENT FOR THE RELIEF OF ITCHING

SAMUEL M. FEINBERG, M.D.
and
THEODORE B. BERNSTEIN, M.D.
Chicago

The palliative benefit produced by the oral administration of tripelennamine hydrochloride ("pyribenzamine hydrochloride" N. N. R.) and other antihistaminic drugs on the symptoms of many allergic manifestations has now been fully demonstrated.[1] In the dermatoses the effect of these drugs has been to reduce the edema of the lesions, but above all they have been effective in the relief of the pruritus. There is some evidence that even pruritus not definitely ascribable to an allergic cause, such as pruritus due to icterus or to diabetes, has been relieved by these drugs. We have shown also[2] that the local application of a solution of the antihistaminic substance to a scratch on the skin inhibits the normal whealing from histamine or that from an antigen, such as ragweed, in an allergic person. We further demonstrated that a solution such as tripelennamine hydrochloride would penetrate the skin when applied to the unbroken integument. This was shown by applying the antihistaminic substance to an area of dermographic skin and then stroking this part and the contiguous untreated skin. Dermographic whealing took place only at the untreated areas, skipping the treated site. We had observed over several seasons a patient with hay fever due to ragweed whose only unrelieved complaint was a pronounced itching and dermatitis of the nasal vestibule and the upper lip. During the 1945 season we applied cotton soaked with a solution of an antihistaminic drug to these areas. Decided relief and healing of the dermatitis followed.

The foregoing considerations led us to hope that topical applications of these drugs might be of value in itching dermatoses, particularly atopic dermatitis. Our first preparations were aqueous solutions of the drug; later, mixtures containing vegetable gums were used. We decided finally that ointments would allow more prolonged contact. Our preliminary crude ointments made by mixing the tripelennamine hydrochloride crystals with the ointment base indicated to us that concentrations above 2 per cent would probably be too irritating, while those far below that strength would not be sufficiently effective. The results to be described are based on the use of 2 per cent tripelennamine hydrochloride in both anhydrous and water soluble base.

Topical application of 2 per cent tripelennamine hydrochloride in water soluble or anhydrous base ointments was tried in 33 cases of atopic dermatitis (flexural eczema). These patients suffered from varying grades of chronic lichenifying forms of the disease to exceedingly acute states, and the lesions varied from those confined to the antecubital fossae to those of generalized eczema. Most of the cases were severe. Either prior to the local treatment or subsequently all patients were

From the Division of Allergy, Department of Medicine, Northwestern University Medical School.

The ointments were prepared by Ciba Pharmaceutical Products, Inc.

1. Feinberg, S. M.: Allergy in Practice, ed. 2, Chicago, The Year Book Publishers, Inc., 1946; Histamine and Antihistaminic Agents: Their Experimental and Therapeutic Status, Report to the Council on Pharmacy and Chemistry, J. A. M. A. 132:702 (Nov. 23) 1946. Levin, S. L.: B-Dimethylaminoethyl Benzhydryl Ether Hydrochloride (Benadryl): Its Use in Allergic Diseases, J. Allergy 17:145, 1946. Arbesman, C. E.; Koepf, G. F., and Miller, G. E.: Some Antianaphylactic and Antihistaminic Properties of N'Pyridil-N'Benzyldimethylethylenediamine Monohydrochloride (Pyribenzamine), ibid. 17:203, 1946.

2. Friedlaender, S., and Feinberg, S. M.: Histamine Antagonists: III. The Effect of Oral and Local Use of B-Dimethylaminoethyl Benzhydryl Ether Hydrochloride on the Whealing Due to Histamine, Antigen-Antibody Reactions, and Other Whealing Mechanisms; Therapeutic Results in Allergic Manifestations, J. Allergy 17:129, 1946.

studied and observed for allergic factors: the majority disclosed definite cutaneous reactions and observations which indicated relationship between the eczema and specific allergenic causes. Thirteen of the patients were adults, while only 10 were under 10 years of age. The patient was instructed to apply the ointment as often as needed. Twenty-four of these patients reported consistent relief from the use of the ointment. In some instances the continued antipruritic action and the cessation of scratching produced improvement in the inflammation. In some patients who were relieved the results were additive to the benefit obtained by the use of this or other antihistiminic drugs orally: in other words, more complete freedom from itching was obtained by the simultaneous use of internal and local application of the drug. There were a few instances in which the oral or local treatment was the only one effective. The topical application was found to be particularly desirable in patients whose lesions were localized to small areas. On a number of occasions while the patient was in the office we were able to demonstrate a striking result in a few minutes by applying the ointment in one area (one arm, for example) and having the patient compare it with other sites. A number of patients volunteered the information that this ointment gave them relief exceeding that obtained from any other topical applications, including local anesthetics. Occasionally the ointment was irritating, particularly when there was acute inflammation. A stinging sensation occurring for a few moments after the application of this medicament is no contraindication to its use.

We also had the opportunity to apply this topical medicament to 9 patients with pruritus ani. Three of these patients had been subjected to allergic studies by us because of a complaint of vasomotor rhinitis. It cannot be said at this time, however, that their anal pruritus was due to allergy. The other patients were not studied by us: they were friends of the previous 3 patients and were anxious to try the ointment because of the good results obtained by the others. Eight patients had symptomatic relief, in most of them exceeding the benefit obtained from anything they had used previously over a period of years. In 1 patient, whom we had an opportunity to observe periodically, there was a noticeable diminution in the acuteness of the inflammation.

We also had occasion to note the effect of this medicament on several other types of dermatitis. In 2 cases of contact dermatitis of the eyelids, in 2 of dermatitis of the arms of unknown nature and in 1 case of dermatitis of the legs of unknown cause, improvement in the itching was obtained. In a patient with urticaria the pruritus caused by the individual lesion was relieved by the application of the ointment to the lesion. In 4 other cases of dermatitis no benefit was evident.

The choice of the water soluble base or the anhydrous base would depend somewhat on the individual circumstances. In most instances the water soluble base might be preferable because it appears to be quicker and perhaps more pronounced in activity. The anhydrous base, however, might be preferred when a greasy covering is desired. It should be remembered that this type of treatment does not supplant other internal therapy or allergic management. The allergic approach is of basic importance, particularly in the older age group of atopic dermatitis. Nor does the tripelennamine ointment take the place of other local therapy, such as lotions of solution of aluminum acetate or tar or naphthalan applications. This is a special therapy, which is aimed at relief of the itching and secondarily at inhibition of some of the detrimental effects of the histamine-like substance released in the skin as a result of the allergic reaction. Our preliminary trials indicate that some of the other antihistaminic agents could be used topically in a similar manner.

SUMMARY

Tripelennamine ("pyribenzamine") hydrochloride in a 2 per cent concentration in ointment form applied locally has been found to give relief to the majority of patients with itching dermatoses, particularly atopic dermatitis and pruritus ani.

185 North Wabash Avenue.

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Council on Physical Medicine

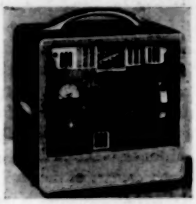
The Council on Physical Medicine has authorized publication of the following report. HOWARD A. CARTER, *Secretary.*

BURDICK MUSCLE STIMULATOR ACCEPTABLE

Manufacturer: The Burdick Corporation, Milton, Wis.

Two currents are provided by the Burdick Muscle Stimulator for therapeutic use. One is designated "galvanic" and the other "stimulator." The galvanic current was tested for percentage of ripple and was found to be almost ripple free—the ripple was too small to be measured. This current is suitable for ion transfer, electrolysis and the stimulation of muscle—denervated and normal—by using an interrupter key to open and close alternately the current circuit.

The current designated "stimulator" is a condenser discharge of small capacity controlled by an interrupter. *It is not a faradic current.* The current is surged by means of a geared mechanism to which a handle is attached for use by the operator. This mechanism is easily controlled and permits the operator to determine manually the rate of muscle contraction as well as the degree. It performs a function similar to the manual manipulation of the "Morton Smart" machine for securing the graduated muscular contractions. This current can be used for stimulation of the muscle having an intact nerve supply. It cannot be used to secure contraction of the partially or totally denervated muscle. Therefore its use is confined solely to treatment of the muscle with an intact nerve supply.



Burdick Muscle Stimulator.

The unit is small, portable, compact and well constructed. The cabinet is of metal and measures 20.3 by 30.5 by 30.5 cm. The unit weighs 12.25 Kg. It is equipped with the usual standard accessories, which are placed in a special compartment at the base of the cabinet. The dispersive pad, 12.7 by 10.2 cm., supplied with the unit tested on patients, was found to limit the current intensity to a maximum of 35 milliamperes without danger of an electrical burn. The unit has a minimum but an adequate number of controls and meters. The ammeter is calibrated from zero to 12 milliamperes for precision readings and from zero to 60 milliamperes for maximum output.

The Council on Physical Medicine voted to include the Burdick Muscle Stimulator in its list of accepted devices.

PLICOSE-WATASEAL PILLOW AND MATTRESS COVERS ACCEPTABLE

Manufacturer: Fine Art Apron Co., Inc., 50 West 29th Street, New York 1.

These pillow and mattress covers are designed to alleviate the distress caused by symptoms of asthma and allergic disturbances due to feather and bedding dust. The pillow and mattress covers are made of a plastic composition known as vinyl film, which is resistant to alcohol, mineral oils, ammonia, iodine and soap. Samples were examined in a clinic acceptable to the Council on Physical Medicine, and the claims for resistance to the several aforementioned agents were verified. The "Plicose-Wataseal" nonallergenic pillow covers were found to be satisfactory for the purpose for which they are intended.

The Council on Physical Medicine voted to accept the "Plicose-Wataseal Pillow and Mattress Covers" for inclusion in its list of accepted devices.

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SATURDAY, JULY 5, 1947

BRUCELLOSIS

The erroneous concept still is prevalent that brucellosis is a regressive, rare and self-limited disease. Infection of nonimmune persons must be expected to continue as long as infected food is ingested or there is contact with infected cattle, goats, swine, sheep or horses. Some idea of the importance of the existing problem can be gained from statistics compiled for the state of Iowa, where 638 cases were reported in 1946.[1] Histories obtained in 96 per cent of the cases showed direct contact of the patient with hogs and cows before the recognized onset of the illness in 74 per cent. The remaining 26 per cent were assumed to have contracted the disease through ingestion of unpasteurized dairy products.

The total number of cases reported in the United States has averaged about 4,000 yearly for the past several years. Only the relatively severe acute illnesses are diagnosed and reported. Chronic infections outnumber the acute illness by a ratio of at least 10 to 1 but these chronic infections are rarely diagnosed. If 4,000 cases are reported yearly it is probable that from 40,000 to 100,000 infections occur yearly. If only 40,000 cases occur annually, 400,000 cases will have occurred in a ten year period, with an unknown percentage of this total accumulating from year to year as persistent or recurrent illness.

Although the mortality is usually low, higher rates may occur, especially in the presence of epidemics of the more virulent suis infection carried by raw milk. Cross infection apparently is increasing, allowing the hog or the cow to transmit the virulent melitensis or suis strain to man. In what degree the less severe infections may contribute to death indirectly is unknown.

The annual food loss in milk, butter, beef, veal and pork reaches a staggering total in calories of the kind most needed by an underfed world. The incidence of infection in cattle is still high. Huddleson[2] made estimates for the state of Michigan based on the pooled results of investigations of others. The average infected cow was found to produce about 2,065 pounds less milk per lactation period than the noninfected cow. Estimating that 10 per cent of 1,080,000 cows in the state of Michigan were infected, he considered that the 108,000 infected cows resulted in a total milk loss of 222,904,000 pounds of market milk yearly—enough to supply about 557,000 persons for one year. The loss in butter was translated into about 11,140,200 pounds per year—enough to supply 655,300 persons for a year. Because of abortion or sterility due to Brucella infection a loss of about 16,240 calves per year was estimated, representing a loss of 1,299,200 pounds of veal or of 6,494,000 pounds of beef or a proportionate annual loss in dairy products if calves were raised as milk-producing animals. The true incidence of hog infection is not known, the blood agglutination reaction being even less reliable in hogs than in cattle. It is thought to be relatively high, however. On one hog farm 82 per cent of the expected pig crop, or 54,180 pounds of dressed pork, was lost through infection.

Failure of recognition in a large percentage of chronic cases of brucellosis is to be expected except with the most careful study. The concept has not yet attained general acceptance that brucellosis is no less protean than tuberculosis or syphilis, that it may simulate many other conditions, including psychoneuroses and that it may coexist with any of them. There are no pathognomonic signs and no single uniformly reliable diagnostic procedure. The blood agglutination with Brucella is frequently negative in the acute illness and usually negative in the chronic illness; it has significance only if positive. It is still used as the one single criterion of diagnosis by a majority of practitioners, although positive cultures repeatedly have been demonstrated in the absence of blood agglutinins. The employment of all available laboratory procedures, in addition to the exhaustive clinical study—complete blood counts, sedimentation rates, immune reactions, intradermal tests and culture—may be essential to diagnosis.[3] Rarely is it justifiable to draw conclusions from the intracutaneous reaction alone.

A defeatist attitude toward treatment, not justified by results reported by various methods, also prevails. Development of still better methods in diagnosis, treatment and prevention, in animals and man, depends upon an increasing "brucellosis-mindedness" and continued investigation. The disease continues to be a major public health problem. Pasteurization of all dairy products must remain the greatest bulwark against human infection until methods of control can be perfected.

1. Brucellosis in Iowa, Iowa news, J. A. M. A. **134**: 197 (May 10) 1947.
2. Huddleson, I. F.: The Relation of Brucellosis to Human Welfare, Ann. New York. Acad. Sc. **48**: 415, 1947.
3. Harris, H. J.: Brucellosis: Advances in Diagnosis and Treatment, J. A. M. A. **131**: 1485 (Aug. 31) 1946.

ENRICHMENT OF CORN PRODUCTS

Consideration of the enrichment of corn products now comes as a logical corollary to the enrichment of white bread and flour launched in May 1941. Corn is a staple human food in the South; in some rural areas it substantially replaces white flour products. Moreover there is a long recognized association of pellagra with diets in which corn predominates. This was attributed for several years entirely to the low niacin content of corn; now it is known that corn also is low in tryptophan, which has come to be recognized as a precursor of niacin. Although milk is low in niacin, its tryptophan content reasonably accounts for the antipellagric effect emphasized by Goldberger. According to Woolley, corn also contains an antiniacin component.

The general adoption of enrichment of corn products has been long delayed principally by the peculiar organization of the industry. National organizations of wheat millers and of bakers warmly welcomed the inauguration of enrichment and did much to promote its general adoption. The corn milling industry, however, is divided into two main branches as far as human consumption of corn is concerned. One branch produces degerminated corn products, largely in the corn belt of the Middle West. Many of these mills are of good size and use well developed and somewhat intricate technologic processes whereby the germ is separately utilized for oil production. Most of the grits and a fair fraction of the corn meal used in the South are of the degerminated variety. The other branch comprises thousands of mills, mostly small, throughout the South which grind the whole grain and market it without separation of the germ. Retention of the germ conserves some of the nutrients, notably thiamine, but niacin is still significantly low. Accordingly each class of product requires quantitatively different additions to attain appropriate and uniform enrichment levels.

The division in the industry has been further aggravated by the adoption of laws in several Southern states which require enrichment of degerminated products but not of whole corn products. This has been justified on the ground that the former is nutritionally more deficient. However, the local whole corn millers are competitive with the Midwestern millers, and they present a difficult enforcement problem because of their numbers and their isolation.

A serious attempt to educate the small miller to enrich his product voluntarily has been under way in South Carolina for three years. Working from Clemson College as a base, Dr. E. J. Lease and his associates have devised an automatic feeder adapted to supply a tiny stream of an enrichment mixture to the corn as it enters a small mill. These feeders have been manufactured by the hundreds. At the same time an enrichment mixture suitable for whole corn products is produced and distributed from Clemson. By this means and with the aid of an agent of the Agricultural Extension Service, about one fourth of South Carolina's 850 millers have been enlisted in the regular enrichment of their product. This project has been aided by substantial grants from the Williams-Waterman Fund for the Combat of Dietary Diseases. Now the effort is being extended into several adjoining Southern states.

Enrichment of corn products will be facilitated by the recent issuance under the Federal Food, Drug and Cosmetic Act of uniform standards of nutrient content for enriched products of corn meal, degerminated corn meal and corn grits. These standards conform substantially to those for enriched white flour. Corn grits present a special problem in that they are customarily rinsed before cooking. However, the nutrients added can be fixed on the particles; means for doing this are now available.

A public awakening to the importance of this campaign is essential for its success. The physician in each community can render a valuable public service by giving the program his support. The general adoption of enrichment of corn products can be expected to eradicate forthright pellagra.

Current Comment

SOME UNUSUAL CASES OF SMALLPOX

The transmission of smallpox usually occurs following direct or indirect contact with a preexisting case. However, cases may develop from unusual sources of infection. Recent experiments by British scientists[1] offer an explanation of some of the unusual methods of transmission of smallpox. In an outbreak in the spring of 1946 in England Downie and Dumbell procured from patients crusts and exudates which they kept under ordinary atmospheric conditions at room temperature. They had also for their experiments crusts from a case in the Middlesex outbreak of 1944 and from 2 cases which occurred in 1945. At intervals a number of crusts were removed from the container, then thoroughly broken up, and sterile buffered distilled water was added. This suspension was left to extract at room temperature for two hours and then overnight in the refrigerator. Next day the suspension was centrifuged, and the supernatant fluid was mixed with penicillin solution to suppress bacterial contaminants before inoculation into fertile hen's eggs. When infection with smallpox virus occurred, characteristic lesions appeared on the chorioallantois in the developing eggs. Experiments were conducted also with smallpox vesicle fluid which had been smeared on glass slides and sent to the laboratory for microscopic examination. In an

1. Downie, A. W., and Dumbell, K. R.: Survival of Variola Virus in Dried Exudate and Crusts from Smallpox Patients, Lancet 1:550 (April 26) 1947.

experiment in which the vesicle fluid was dried in this way the specimen had been taken from a skin lesion in a patient with hemorrhagic smallpox on the seventh day of the disease, one day before the patient died. Virus was found to survive in the diluted vesicle fluid dried on glass slides for thirty-five days when exposed to daylight and for eighty-four days when kept in the dark at room temperature. Smallpox virus was thus recovered from different samples of crusts from patients and kept at room temperature for several months, and from one specimen kept for more than a year. In crusts and dried vesicle fluid kept at room temperature the amount of virus recoverable diminished at first fairly rapidly, but virus was detected many months after this initial period. Virus did not survive as long in the diluted vesicle fluid which had been dried on glass slides as in crusts. There was little relation between the virus content of crusts and the stage of the disease at which they were collected. By the same technic, virus had been isolated from sweepings from the ward floor near a bed in which a child was convalescing from smallpox. These experiments confirm that the material from the skin lesions in smallpox patients is infective. Such material has been responsible for smallpox cases, and smallpox has developed among laundry workers to whom infective material was conveyed on bedclothes. These experiments explain also certain cases in which smallpox has occurred in houses in England to which gifts had been brought from the East. Obviously, therefore, the various articles used by a smallpox patient may long remain capable of transmitting the disease. The skin lesions cannot be regarded as the only source of virus, as patients may spread the infection before their skin lesions develop. A number of people are known [2] to have contracted smallpox after attending the funeral of a patient who died from an unrecognized hemorrhagic attack. The patient's body remains infected for a time after death. Although these uncommon examples are important sources of infection, they should never be allowed to cause the usual human sources of smallpox to be overlooked.

FIBROIDS IN PREGNANCY

Fibroids are sufficiently common during pregnancy to constitute an important complication. Reports of their incidence vary; Buckell,[1] in a review of 122 cases, found an incidence of 0.79 per cent. The average age of Buckell's London group was 34.3 years. More than one fifth of the patients were primigravidas aged 36 or older. Only 79 of the 113 patients who were hospitalized had healthy children. Abortions occurred in 14 per cent and fetal and neonatal deaths in 11.1 per cent. In 57 per cent labor was uncomplicated; cesarean section was performed in 25 per cent of the cases, extraction by forceps in 12.5 per cent and craniotomy once. Uterine inertia was more frequent than in unselected cases but less common than might have been expected. Three of the patients died. One died from postoperative shock following cesarean section, 1 from terminal bronchopneumonia complicated by sloughing fibroids and vesicovaginal fistula after craniotomy and 1 from paralytic ileus three days after myomectomy and cesarean section. Eighty children left the hospital in good health, including one set of twins. Five children were born macerated, 1 was born dead, 2 stillbirths occurred where the cord was pulsating but respiration did not develop and there were 2 neonatal deaths, 1 following premature labor and the other a forceps delivery. Buckell concludes that the presence of fibroids is a serious complication to pregnancy, labor and the puerperium, as it is followed by a high maternal death rate and fetal mortality. Myomectomy during pregnancy, he believes, should be avoided if possible and "red degeneration" should be treated conservatively. A living child can usually be obtained by cesarean section, and this procedure should be seriously considered in all elderly primigravidas and other patients in whom there are additional complications.

EXPERIMENTS ON IMMUNITY TO POLIOMYELITIS

Yale University scientists,[1] members of the Yale Poliomyelitis Study Unit organized in 1931, report results of their immunity studies which provide a better understanding of the mechanics of resistance to infantile paralysis. Eight chimpanzees were given food containing poliomyelitis virus or inoculated with the virus into and under the skin. The animals did not show signs of illness, although almost immediately they began to excrete the virus in their stools; they continued to eliminate virus for as long as five weeks in some instances. Blood tests carried out before the virus was administered, and again after the virus had disappeared from the stools, revealed that specific antibodies capable of neutralizing live poliomyelitis virus had made their appearance in the blood. In some of the animals these antibodies remained present for as long as a year. Some months after Melnick and Horstmann had produced the "intestinal carrier state" the animals were again fed the same strain of poliomyelitis virus or had it injected into and under their skins. The animals now remained resistant to the second attempt at producing an intestinal carrier state. Only when the chimpanzees were given a strain of virus different from the one used to produce the original intestinal carrier state did they again excrete virus in their stools. The results of these studies indicate a relationship between this type of poliomyelitis infection and the presence of specific antibodies in the animals' blood. It may be, the Yale scientists stated, that in these experiments the chimpanzees responded in somewhat the same fashion as do many human beings: they develop a virus intestinal carrier state without signs of acute illness and produce specific antibodies in the blood as the result of this minimal type of infection.

2. Lancet 1:562 (April 26) 1947.

1. Buckell, E. W. C.: Fibroids in Pregnancy, J. Obst. & Gynec. 54:70 (Feb.) 1947.

1. Melnick, J. L., and Horstmann, Dorothy M.: Active Immunity to Poliomyelitis in Chimpanzees Following Subclinical Infection, J. Exper. Med. 85:287 (March) 1947.

ORGANIZATION SECTION

PROCEEDINGS of the ATLANTIC CITY SESSION

MINUTES OF THE ANNUAL SESSION OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION, HELD IN ATLANTIC CITY, JUNE 9-13, 1947

(Concluded from page 806)

HOUSE OF DELEGATES

Fourth Meeting—Thursday Morning, June 12

Roll Call

On motion of Dr. H. B. Everett, Tennessee, seconded by Dr. Arthur J. Bedell, Section on Ophthalmology, and carried, the registration slips constituted the roll call.

Presentation of Minutes

It was moved by Dr. Arthur J. Bedell, Section on Ophthalmology, seconded by Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, and carried, that the House dispense with the reading of the minutes.

Report of Reference Committee on Credentials

Dr. G. Henry Mundt, Chairman, reported that 173 delegates had registered.

Report of Reference Committee on Sections and Section Work

Dr. Roy B. Henline, Chairman, presented the following report:

1. Your committee has considered the report of the Council on Scientific Assembly and wishes to express great commendation for the work of this Council. With an unusual amount of effort and with great devotion to their task, they have produced an outstanding scientific program undoubtedly unsurpassed in the history of medical organizations. Your reference committee recommends the adoption of the report of the Council on Scientific Assembly.

2. Resolutions on Sections Celebrating Their Centennials: Your committee received resolutions introduced by Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, the intent of which is to urge the various scientific sections to commemorate their various anniversaries, to give more attention to their social functions and to encourage good fellowship among their individual members. Your reference committee commends this intention and recommends that all sections of the American Medical Association be urged to use every occasion for the promotion of fellowship and for pride in the accomplishment of the particular branch of medicine represented, and further recommends that the Secretary of the American Medical Association send to the secretary of each of the scientific sections a copy of this recommendation.

3. Resolution on Establishment of Section on Diseases of the Chest: Your committee received a resolution introduced by Dr. Walter E. Vest, West Virginia, regarding the establishment of a Section on Diseases of the Chest. The resolution points out that there are about 2,500 physicians engaged in the practice of this specialty; that an enormous amount of progress has been made; that the subject is of enormous import to the American people, and that the general welfare would be served by the establishment of such a section. After hearing from eight Fellows of the Association, who appeared before it, your reference committee is of the opinion that it is advisable to establish such a section, and to that end the committee recommends that section 3 of article 5 of the Constitution be amended by deletion of the figures "175" and the substitution therefor of the figures "176"; and that the By-Laws be amended by adding to section 1 of chapter 15 a newly numbered section, as follows: "No. 19. Section on Diseases of the Chest." The committee further recommends that in the interim the Council on Scientific Assembly allot a portion of the program of the Section on Miscellaneous Topics at the next annual session to the subject of diseases of the chest, and that at that time a section be organized to be known as the Section on Diseases of the Chest.

Respectfully submitted,

Roy B. Henline, Chairman.
Edgar V. Allen.
Burt R. Shurly.
Lowell S. Goin.
Scott Lord Smith.

The first two sections of the report of the reference committee were adopted on motions of Dr. Henline, duly seconded and carried.

Dr. Henline moved adoption of the third section of the report of the reference committee dealing with the Resolution on Establishment of Section on Diseases of the Chest, and the motion was seconded by Dr. Thomas S. Cullen, Maryland. After discussion and suggestions of amendments, it was moved by Dr. E. Vincent Askey, California, seconded by Dr. Walter E. Vest, West Virginia, and carried, that the House approve a Section on Diseases of the Chest as a section of the Association.

Dr. Askey then moved that this be referred to the Committee to Study Revision of the Constitution and By-Laws so that that committee may take appropriate steps to see that the new section has the proper representation in the House of Delegates, and the motion was seconded by several and carried.

On motion of Dr. Henline, seconded by several and carried, the report of the reference committee as amended was adopted as a whole.

Introduction of Invited Foreign Guest

Dr. Victor Johnson, Secretary of the Council on Medical Education and Hospitals, presented Professor C. Heymans of the University of Ghent, Belgium, who addressed the House as follows:

I just would like to say how glad I am to have this opportunity to join this splendid meeting of the American Medical Association and I consider it as a very great honor indeed. I am also very glad to have this opportunity to express very sincerely my appreciation and very deep appreciation for the splendid achievements made in medical science by different American schools and departments in the different universities and by this American Medical Association. I thank you very sincerely.

Report of Reference Committee on Medical Education

Dr. George W. Kosmak, Chairman, presented the following report, which was adopted on motion of Dr. Kosmak, seconded by Dr. James R. Reuling, New York, and carried:

Resolution on Nursing Shortage: Your reference committee listened to several individuals appearing before the committee to discuss the recommendations incorporated into this resolution. It is impressed with the necessity of considering seriously the question of stimulating the training of nursing personnel

in some category of nursing service requiring less time and training while still preserving a reasonably good quality of training to insure satisfactory hospital care. Your reference committee believes that the entire problem of supply and training of nurses requires immediate study. It concurs with the recommendations of this resolution requesting the Board of Trustees to take appropriate action. In recommending the adoption of this resolution with a single change in wording, namely that the term "approved hospital" be changed to read "hospital registered by the American Medical Association," your reference committee wishes also to call to the attention of this House that there was adopted yesterday the following recommendation from the Reference Committee on Reports of Officers:

"Your committee recognizes this serious situation. It feels that in recent years too much stress has been laid on the technical and scientific preparation for the prospective student nurse rather than on her sympathetic understanding of the problem of patient handling, comfort and ordinary technics of treatment. It recommends that the President appoint a committee of five to be known as the Committee on Nursing Problems. This committee shall investigate the present objectives of the nursing profession, the standards of education, the time involved for training, the various curriculums, the supply of nurses and quality of services rendered, remuneration, participation in the determination of administrative policies and the question of security benefits, and to study the training of practical nurses." In recommending the adoption of the resolution under consideration, your committee feels that the House will be acting consistently with the action taken on the recommendation just quoted. Your committee recommends adoption of this resolution on the training of nurses and of some category of practical or certified nurse with the amendment quoted.

Respectfully submitted,

George W. Kosmak, Chairman.
Joseph D. McCarthy.
Thomas S. Cullen.
William D. Stovall.
A. W. Adson.

Report of Reference Committee on Legislation and Public Relations

Dr. Thomas P. Murdock, Chairman, presented the following report, which on motions of Dr. Murdock, duly seconded and carried, was adopted section by section and as a whole:

1. Resolutions on Health of the Nation: Your reference committee carefully reviewed these resolutions presented by Dr. T. D. Cunningham, Colorado, and recommends their disapproval.

2. Resolutions on Effective Program of Public Relations and Resolution on Establishment of Committee on Public Relations: Your reference committee has reconsidered these resolutions and recommends substitute resolutions, as follows:

Whereas, The House of Delegates has authorized and endorsed an effective program of public relations for the American medical profession; and

Whereas, The American Medical Association is the only organization which is qualified to speak with authority for American medicine; and

Whereas, A major vacancy exists in the recently established public relations organization at the headquarters office; therefore be it

Resolved, That the Board of Trustees set up whatever machinery may be necessary to reestablish this bureau; and be it further

Resolved, That the Executive Committee of the Board of Trustees be in charge of public relations until the bureau is reestablished.

3. Resolutions on Support of the SOS Collection of the Joint Distribution Committee: Your reference committee has reviewed the resolutions relative to the SOS (Supplies for Overseas Survivors) and recommends that the resolutions be disapproved for lack of sufficient information.

4. Resolutions on S. 140: Your reference committee has reconsidered the resolutions on the Taft-Fulbright bill and presents the following substitute resolutions:

Whereas, Senate Bill 140, sponsored by Senators Taft and Fulbright, creating a Department of Health, Education and Security has been favorably reported by the Senate Committee on Expenditures in the Executive Department; and

Whereas, The American Medical Association has repeatedly advocated a National Department of Health with a Secretary of Cabinet rank; be it therefore

Resolved, That the House of Delegates go on record as opposing that portion or portions of the bill tying in education and security with health; and be it further

Resolved, That if it is impracticable at the present time to establish an independent Executive Department of Health, the House of Delegates prefers the establishment of a National Health Agency such as proposed in S. 545 (also sponsored by Senator Taft and other colleagues) than an Executive Department in which health, education and security activities would be combined.

Respectfully submitted,

Thomas P. Murdock, Chairman.
Thomas A. McGoldrick.
William M. Skipp.
Lloyd Noland.
Forrest J. Pinkerton.

Report of Reference Committee on Hygiene and Public Health

Dr. Walter E. Vest, Chairman, presented the following report, which was adopted on motion of Dr. Vest, seconded by Dr. Thomas M. D'Angelo, New York, and carried:

Resolution on National Health Policy: Your Reference Committee on Hygiene and Public Health has reconsidered this resolution, which is apparently the plan now operating in Monmouth County, N. J., for the medical care of the indigent. It embodies ten principles which the New Jersey delegation has found of value in meeting their problems. After study, your committee has revised this resolution to read as follows:

Whereas, The American Medical Association recognizes the need of supplying the professional and administrative leadership at the local level necessary to furnish public health services and adequate medical care to the people of the nation therefore be it

Resolved, That the following principles be promulgated under the leadership of the Board of Trustees or appropriate Council as guide posts to local societies in developing plans for care of the indigent:

1. Each component society will appoint the necessary committees to study the public health and medical care problems concerned and to supervise projects relevant to these problems.

2. Each component society pledges itself to maintain a high standard of professional skills among the medical personnel assigned to these projects and to supervise such activities with a view toward maintaining high scientific standards and preventing personal exploitation.

3. Each component society invites and welcomes at its discretion the active participation in its scientific programs by the qualified medical personnel of the appropriate health and welfare agencies, and, under suitable circumstances, of the desirable nonmedical personnel as well.

4. The health and welfare agencies will render genuine cooperation with each component society in the implementation of these projects.

5. The health and welfare agencies will select their part time medical personnel from lists furnished by, or with the approval of, each component society.

6. The health and welfare agencies will clear through each component society any grievances concerning medical personnel.

7. The health and welfare agencies will protect the private practitioner and family doctor by discouraging treatment in preventive clinics and by returning to the family doctor any cases not economically suitable for examination or care at the health or welfare agency.

8. The health and welfare agencies will not profit financially by the labors of any medical personnel working there.

9. Each component society and the health and welfare agencies will seek the cooperation of dental, nursing and pharmaceutical organizations in a program fashioned to accord with these principles.

10. Each component society and the health and welfare agencies will maintain continuing liaison with one another to implement these principles.

Your committee believes these principles may be of value to the Committee on Rural Medical Service in developing the activities of the rural health councils and may aid in other areas in the evolution of plans for the care of the medically indigent. It therefore recommends that the revised resolution be adopted.

Respectfully submitted,

Walter E. Vest, Chairman.
James P. Wall.
Walter P. Anderton.
Leonce J. Kosminsky.
James A. Crabtree.

Report of Reference Committee on Reports of Board of Trustees and Secretary

Dr. Elmer Hess, Chairman, presented a report, which was adopted section by section and as a whole as amended. The report as amended reads:

BOARD OF TRUSTEES

1. Resignation of President-Elect: Your reference Committee notes with regret that Dr. Olin West, because of ill health, was obliged to resign as President-Elect. It wishes to commend the wisdom of the House of Delegates in the selection of a strong Vice President. The committee feels that the office of Vice President is an extremely important one and that no one should ever be selected for this position unless he has every qualification for the presidency.

2. Income and Expenditures: In 1946 the net income of the Association was $106,368.33 as compared to $990,708.81 in 1945. However, the committee realizes that this is due to the necessarily increased expenses of all the departments without an increase in the dues for fellowship. This is a very good showing and it must be remembered that the American Medical Association is run for service and not for profit.

3. THE JOURNAL: Your committee has nothing but the highest compliments for THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, truly the greatest medical journal in the world, containing as it does scientific and informative news of vital interest to all medical men. The committee is happy to see the increase in the regular correspondence that THE JOURNAL has with many countries around the globe and it is particularly pleased to know that we now have a regular correspondent at Washington. Your committee notes with regret that THE JOURNAL is obliged, because of lack of paper and other facilities, to reject approximately 80 per cent of the scientific manuscripts that are submitted for publication. It hopes that this condition may be soon corrected. It compliments THE JOURNAL for its continued campaign against nostrums, charlatans, cultists and inferior institutions of education. It is happy to note the very pronounced increase in circulation.

4. Field Service: Under the able editorial leadership of Dr. Morris Fishbein, THE JOURNAL has shown definite progressive improvement, but your committee regrets that the associate editors are not used more often in the field service of the editorial staff. It believes that it is essential to the future welfare of THE JOURNAL and the American Medical Association that capable men, even though unable to speak with the fluency and authoritativeness of the Editor, should at least be trained so that they might approach him in effectiveness. After all, the associate editorship should be the proving ground for the individual who must some day, by necessity, take his place.

5. Special Journals: Your committee has reviewed with satisfaction the increase in the circulation and the number of pages of the special journals which are sponsored by the Association.

6. Hygeia: The admission of the fact that the printing of Hygeia must be transferred from headquarters to an outside company increases our necessity for enlarging the facilities and planning and completing our building program in the very near future. It is hoped that planning for the so-called "temple of medicine" might start immediately and that provision might be made for the rapid growth of the whole Association.

Your reference committee is pleased with the increased circulation of HYGEIA which was obtained from selected fields including physicians, dentists, schools, libraries, nurses and other health teaching groups. In the educational field the high school group study plan was initiated whereby HYGEIA is furnished as an auxiliary text for classroom use at a special rate of 15 cents a copy on school orders for ten or more copies. In a recent survey covering these groups, it was found that each copy of HYGEIA is read by an average of four students and that the magazine is used in classes on public health, physical education, biology, personal hygiene, first aid, physiology and science. Your committee wishes to compliment the 1931 House of Delegates which urged the Woman's Auxiliary of the Association to organize and make one of its chief activities the promotion of the distribution of this journal to parent teacher associations, boards of education, schools and colleges and other groups interested in health education. Out of 600 organized county units of the Auxiliary 90 per cent of the orders came from 25 per cent of the county auxiliaries. Twenty-five per cent showed interest but 50 per cent took no part in this work. An attempt should be made to reactivate all of these inactive units in the promotion of HYGEIA. It is noted that, in 1923, 14,175 subscribers were physicians, while in 1946 only 17,000 were physicians. It is suggested that there are more important places for HYGEIA than in the doctor's waiting room. But we should suggest that physicians be encouraged to subscribe and place HYGEIA in locations where its public relations value would be greater than collecting dust on a waiting room table.

7. American Medical Directory: Your reference committee can well understand why the American Medical Directory has not been issued since 1942. Every effort should be made to have a new issue published as soon as possible when adequate personnel and paper supplies are obtainable.

8. Book Publications: Your reference committee has noted that more and more of the books that were formerly published by the American Medical Association are being transferred to private medical publishers. As this is a comparatively new venture, it should be watched closely. If this procedure succeeds from all angles, it should be continued.

Library: Your reference committee commends the continuation of the library service even though there was a shortage of personnel. Many physicians are not aware of the value of the library, and its use should be encouraged.

QUARTERLY CUMULATIVE INDEX MEDICUS: Your reference committee notes the increased usage of the QUARTERLY CUMULATIVE INDEX MEDICUS and notes with satisfaction that this service is greatly appreciated by the membership.

Order and Mailing Departments: Your reference committee wishes to call attention to the enormous amount of mail handled by this department.

Employment Department: Your reference committee notes with satisfaction the good work being done in this department and urges that it be continued along present lines.

Cooperative Medical Advertising Bureau: Your reference committee congratulates the Bureau on its long years of existence and proved value. Since its reorganization in 1945, this department has continued with greater success.

10. Bureau of Health Education: Your reference committee reviews with pride the unusual accomplishment in the entire field of health education by the Bureau of Health Education. The appointment of Dr. Dean F. Smiley and Fred V. Hein, Ph.D. has added immeasurably to the efficiency of the bureau. This bureau should be enthusiastically supported and its activities constantly broadened. Each medium for the distribution of medical information is continually evaluated. For example, the radio script library has been discontinued in favor of the use of electrical transcriptions. Television is being developed experimentally for the transmission of medical information and to develop technics for the use of medical societies generally. Your reference committee recommends the employment as soon as possible of several field men to represent the American Medical Association before lay groups and county medical societies.

11. Council on Industrial Health: Your reference committee commends the activities of this council in its well rounded program for the improvement of industrial health, its advocacy of better labor-management understanding of health problems, the educational program established for further scientific development and education of these programs and finally its efforts to improve the evaluation and advise on industrial disabilities and workmen's compensation.

12. Bureau of Legal Medicine and Legislation: Your reference committee reemphasizes the position taken by the House of Delegates on many occasions in the past in advocating the creation of a federal department of health at the head of which would be an outstanding doctor of medicine and in which could be centralized all the proper health activities of the federal

government other than those associated with the Army, Navy and Veterans Administration. Your reference committee does not believe such health activities could be centralized and properly carried on in a federal department in which health, education and welfare activities are combined.

S. 545, the so-called Taft bill, as now written approximates a legislative background for the development of a health program for the American people as set forth in the broad national health program of the American Medical Association.

The Hill-Burton Hospital Survey and Construction Act has been passed. While not the intent of the act, nevertheless it harbors an implication that aid to needy states might be made contingent on the adoption by these states of model legislation for licensing of hospitals. The state societies should be constantly alert to this implication. Indiana has already passed legislation, without the knowledge of the state medical society, licensing all hospitals.

H. R. 588, to bring barbiturates within the coverage of the Federal Narcotic Laws, will prevent the easy passage of individuals across state lines for the purchase of drugs where the laws governing these drugs differ.

The Medical Aid Act of 1947, S. 678, the Lodge bill, to enable needy persons to obtain expensive drugs, defining "medical aid" to include "x-ray services" and "drugs for various other infectious diseases," seems too liberal.

S. 475, reintroduced, has the same objections as the previous bill in that it has too much centralization. It would permit labor departments to undertake hygiene activities now being done by federal and state public health agencies.

There are many bills pending at this time in Congress of medical interest, but your reference committee does not believe that special comment is necessary at this time.

13. Bureau of Exhibits: Your reference committee wishes to praise the entire Scientific Exhibit and hopes that the Army, Navy and other exhibitors will continue their efforts to maintain in the future the high quality of these exhibits. There are few cities with facilities capable of handling the annual session of the American Medical Association. Your reference committee recommends that great care be exercised in the selection of future meeting places.

14. Bureau of Industrial and Personnel Relations: Your reference committee notes with satisfaction that along with the consistent progress our headquarters office has made in recognizing and solving the scientific, economic, sociologic and legislative problems confronting American medicine there has been a recognition of the obligations of the Association to its employees. It is obvious that the effectiveness of headquarters activities depends on the quality and performance of its employees. The successful operation of our newly established Bureau of Industrial and Personnel Relations, in our opinion, will do much to maintain and to improve the caliber of our employees.

15. Council on Pharmacy and Chemistry: The Council on Pharmacy and Chemistry does more than consider evidence on drugs. It promotes research, undertakes product evaluation, best example of which is seen in development of the seal, undertakes educational campaigns in its field of interest, and provides cooperative assistance with other departments at American Medical Association headquarters and elsewhere. Today the outstanding activities of the Council are its evaluation of drugs, cosmetics and allied preparations and the initiation and encouragement of research through its Therapeutic Research Committee, which provides grants, and its Therapeutic Trials Committee, which brings together individuals who have a new idea and those capable of investigating it. Its usefulness to the medical profession is enhanced by the cooperative relationships that it maintains with other organizations. The Therapeutic Trials Committee, although recently formed, is already participating in several major activities. One of the most important factors of this work is that it now provides a means for mutually interested groups to participate jointly in research study.

The Chemical Laboratory is primarily concerned with the testing of drugs that are submitted to the Council on Pharmacy and Chemistry. The importance of this testing does not lie just in examining the contents but in the establishment of standards whereby the drugs can be controlled. The Laboratory is responsible for creating these standards for a large percentage of drugs that come to its attention. Your reference committee commends the work of this council.

16. The Council on Foods and Nutrition: Your reference committee commends the work of this council. It is somewhat similar to that of the Council on Pharmacy and Chemistry except that it is interested in nutrition. The most important part of its work today is concerned with the preservation of the original ingredients of foods and with the proper restoration of foods from which one or more vital factors may have been removed through processing.

17. The Council on Physical Medicine: During the war the Council on Physical Medicine was much interested in rehabilitation. Today it is able to turn more of its attention to the evaluation of products in a field that is still new and not too well known and the need of clarification supported by education. Among the problems that are of particular concern to the council is the use and danger attendant on atomic energy. More recently the Council on Physical Medicine was charged with a responsibility of aiding the Committee on American Health Resorts. Your reference committee commends the work of this council.

18. The Bureau of Investigation: This bureau contains a wealth of material not generally appreciated and which could provide much help for all physicians and their organized associations. It is the one bureau where information may be had concerning quackery and charlatans. One of its most useful procedures is the assistance it gives to schools, clubs and other lay groups.

19. Division of Therapy and Research: These units of the Division of Therapy and Research provide much of the American Medical Association activities in research, product evaluation and the promotion of national therapeutics. Because the problems of these units are frequently related, it is best for them to be grouped for joint consideration where indicated.

The councils welcome inquiries concerning some 200,000 items on which there is information on file in the Bureau of Investigation. The work of these councils and the bureau have become internationally known and today are serving as a model for similar efforts in countries throughout the world.

At the time of the annual session the work of the councils and the bureau is of special aid to the sections, the Secretary's office and the business department, when new ideas and technics are proposed for presentation at the meeting.

20. Bureau of Information and Committee on Rural Medical Service: Your reference committee is pleased with the enthusiastic work of the Committee on Rural Medical Service but also recognizes some overlapping of effort by the Bureau of Information. The latter bureau may later be discontinued but for the present your committee recommends for efficiency and personnel reasons that both the Bureau of Information and the Committee on Rural Medical Service remain as independent units and that their efforts be coordinated through the Council on Medical Service and that Mrs. Shuler be maintained as the Secretary of the Committee on Rural Medical Service.

21. Conference of County Medical Society Officers—Grass Roots Conference: Your reference committee has received very favorable comments on the first meeting held prior to the opening of the American Medical Association session at Atlantic City. Those in attendance were enthusiastic about the conference. Your reference committee recommends the continuation of the conference.

22. American Red Cross Blood Program: Your reference committee recommends the action taken by the Board of Trustees in approving in principle the Red Cross plan for the establishment of a national blood program with the understanding that the operation should be maintained on a community level with the approval of the county medical societies concerned.

23. National Emergency Medical Service: Your reference committee notes with approval the creation in 1945 of the Committee on National Emergency Medical Service and the supple-

menting action of that committee. It earnestly desires the continuation of the study and planning of this committee.

24. Actions with Reference to Committees: Your reference committee notes with confidence that proper committees have been appointed to study closer relationships between the medical and dental professions and one to serve as liaison between the Veterans Administration and the American Medical Association.

25. Addenda: Your reference committee has reviewed the grants for medical research and approves them.

26. Board of Trustees: Your reference committee recognizes the unselfish devotion of each member of the board of trustees to the principles of the American Medical Association and wishes to inform physicians that the affairs of their Association are in splendid hands. It congratulates the House of Delegates in their selection of men of such integrity and faithfulness to those principles. Our affairs are in good hands.

SUPPLEMENTARY REPORT OF THE BOARD OF TRUSTEES

1. Health Problems of Secretary of Interior: The Board of Trustees, learning that the budget of the Department of the Interior for health work in United States possessions—Alaska, Hawaii, the Virgin Islands, etc.—had been drastically reduced and that the Secretary of the Department would be unable to provide the indigent in those countries with much needed medical service, appointed a committee, consisting of the Executive Committee, the Chairman of the Board, the Secretary and General Manager and the Editor, to confer with him.

At the request of Mr. Krug, Secretary of the Interior, this conference was held in Washington. The suggestion was made and adopted that teams of competent consultants—clinicians, not investigators—from hospitals or similar organizations should be invited to be sent by the Department of the Interior for periods of from two to three weeks to consult with the full time staff of the hospital to which they are assigned on the care of these wards of the government and to conduct clinics for the indigent with a view to providing them with a high grade of medical service.

Mr. Krug appointed the Executive Committee of the Board of Trustees, the Secretary and General Manager and the Editor of THE JOURNAL, with his chief assistant, Dr. W. A. Morgan, as an executive, to constitute the committee to select the teams. When a team is ready to embark, Dr. Morgan will notify the staff of the hospital to which it is assigned with a view to having it select enough difficult cases so that the time of the consultants will not be wasted.

Your reference committee heartily approves of this action.

2. World Medical Association: The House of Delegates has been informed of the preliminary meetings preparatory to the formation of a World Medical Association and this matter is included in the report of the Board of Trustees. Dr. E. L. Henderson and Dr. Louis Bauer of the Board of Trustees represented the Association at a preliminary organization meeting in London. Dr. Henderson and Dr. Bauer, together with Dr. Ernest Irons as an observer, have been designated to represent the Association at a meeting to be held later in the year. This would seem to be an opportunity and responsibility of the American Medical Association to assist in the development of a world medical front in meeting problems as they develop in the activities of the World Health Organization and in the divisions of the United States. Your reference committee concurs in this action.

3. A Pan American Medical Federation is in process of development and Dr. Harrison H. Shoulders, Dr. Charles Gordon Heyd and Dr. Austin Smith represented the American Medical Association at a preliminary meeting at Havana last autumn. Pan American nations are looking to the United States and Canada for leadership in medical progress, and this would seem to be a helpful measure in the promotion of higher standards of medical care in the Western Hemisphere. Your reference committee concurs in this action.

4. Liaison Committee with Veterans Administration: The Board of Trustees has appointed a committee to serve as a means of liaison with the Veterans Administration in consideration of frequently developing problems of veterans' medical care. Dr. Herbert H. Bauckus, Buffalo; Dr. Edgar P. McNamee, Cleveland; Dr. H. H. Shoulders, Nashville, Tenn.; Dr. R. L. Sensenich, South Bend, Ind., and Dr. George F. Lull, Chicago, were named to represent the Association. This committee was appointed by the Board of Trustees because of the apparent emergencies so frequently developing. Your reference committee concurs in this action.

5. Resolutions on Insurance Against Loss of Wages During Sickness: Resolutions introduced by Dr. Burgess at San Francisco concerning loss of wages during sickness and the report of the reference committee were referred to the Council on Medical Service. That Council, however, is at a loss to interpret the meaning of the report of the reference committee and the Board of Trustees referred this question to the Judicial Council for interpretation. The Judicial Council has now clarified the meaning of the reference committee's report and the matter has been referred to the Council on Medical Service for study and report to the Board of Trustees. Your reference committee concurs in this action.

6. Woman's Auxiliary: The office of the Woman's Auxiliary of the American Medical Association is now located in the headquarters of the American Medical Association. This should make possible a far more effective coordination of the activities of the Auxiliary and the Association. Your reference committee considers this a good move.

7. Costs of Operation: The costs of operation of the Association have increased very greatly in the last several years. The activities of the Association have been greatly expanded. Operating costs in employment of personnel to carry on these activities are the major items in those increases. However, material costs, especially paper, have increased very greatly. Proposed legislation to increase United States postal rates if enacted would add approximately $89,999 to the annual costs of the Association. The income of the Association is derived from advertising and JOURNAL subscriptions. As the $8 annual subscription price of THE JOURNAL is only a minor fraction of the cost of the production of THE JOURNAL, it is evident that the activities of the Association are dependent on the advertising. The Board of Trustees found it necessary to make some reduction in the operating budgets in order to avoid going into reserve set up for the safety of already established activities of the Association. This information is to assist the House in the consideration of proposals of new activities that may be presented to the House. Your reference committee considers this an essential factor in any consideration of new activities recommended in the House.

8. Resignation of Mr. Raymond Rich and Mr. Charles Swart: Your reference committee approves the action of the Board of Trustees in accepting the resignations of Mr. Raymond Rich and Mr. Charles Swart.

Respectfully submitted,

ELMER HESS, Chairman.
THOMAS F. THORNTON.
ALLEN G. RICE.
ALBERT A. GARTNER.
THEODORE H. HARWOOD.

Report of Reference Committee on Miscellaneous Business

Dr. James Z. Appel, Chairman, presented a report, which, on motions of Dr. Appel, duly seconded and carried, was adopted, after amendment, section by section and as a whole. The report as amended reads:

1. Supplementary Report of the Council on Medical Service: Your committee after careful study of the report of Dr. James R. Miller and his advisory committee which concerns "Planning for the Chronically Ill" agrees with the Council on Medical Service that Dr. Miller and the advisory committee should be commended for this report. It further concurs that Dr. Miller and his committee be authorized to proceed further in investigating and evaluating these problems. It is so impressed with this report that if does not believe the report

should lie hidden in the records of the American Medical Association but suggests to the Council on Medical Service that it be published widely and as a further suggestion believes that the report should not only appear in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION but also might be used as a basis for articles in HYGEIA. It further suggests that copies of the report be forwarded to departments of health and welfare of the states of the Union.

2. Resolution on Preparation and Presentation of Resolutions: In the study of this resolution, your committee finds on page 23 of the Handbook the following: "All reports of committees, resolutions, written notices, etc., must be presented in triplicate . . ." Also in the Constitution and By-Laws it finds under Standing Rules of the House of Delegates the following resolution, adopted at Boston, June 7, 1906: "*Resolved*, That in the future all reports, resolutions, amendments to Constitution and By-Laws, etc., be furnished in duplicate . . ." There appears to be an inconsistency in our present procedure and our standing rules. Your committee appreciates the advantages to be gained by the principles of this resolution and believes they should be approved with the amendment that eight copies be presented at the time a resolution is read rather than six copies as indicated in the resolution. It further recommends that this resolution be an amendment to the Standing Rules of the House of Delegates and replace that portion of the Standing Rules referred to above.

3. Resolution on Listing of Names in Daily Bulletin: The principles involved in this resolution have been enunciated by many of the Fellows of the American Medical Association. Your committee recommends the adoption of the resolution and amends it by adding the words "whenever possible."

4. Resolution on Retired Members of House of Delegates: The principles of this resolution are laudable but are so broad that they become very cumbersome. Your committee is at a loss to see how, if this resolution is adopted, the Secretary of the Association will not be forced, year after year, to send congratulatory letters to living ex members of the House of Delegates. Such letters would become meaningless by their annual recurrence. Your committee therefore recommends that this resolution be not adopted.

5. Resolution on Facilitating Efficiency of Work of House of Delegates: Your reference committee is particularly interested in the provisions of this resolution. Any one who has served on a reference committee has had it brought home to him forcefully. The advantages to be obtained by having the purposes of reports and resolutions enunciated by those who are interested, anything that will stimulate further interest in the deliberations of reference committees is of value. Your committee recommends the adoption of this resolution.

Respectfully submitted,

JAMES Z. APPEL, Chairman.
STEPHEN R. MONTEITH.
JOHN W. CLINE.
HUGH P. SMITH.
EDWARD H. MCLEAN.

Report of Reference Committee on Emergency Medical Service

Dr. C. H. Phifer, Chairman, presented a report, which, on motions of Dr. Phifer, duly seconded and carried, after discussion, was adopted as amended section by section and as a whole. The report as amended reads:

REPORT OF COMMITTEE ON NATIONAL EMERGENCY MEDICAL SERVICE

Your reference committee has reviewed in detail the report of the Committee on National Emergency Medical Service. It desires to commend the committee for the diligence with which it has pursued the tasks assigned it by the Board of Trustees at the direction of the House of Delegates.

1. Your reference committee is greatly impressed by the committee's recommendation for the very urgent need for continuous national planning for emergencies, especially in the fields of medical service, health, sanitation and emergency mobilization as well as the necessity of continuous alert supervision of all developments in these fields. In the opinion of your reference committee the possibility of the new aspects of total warfare and special weapons require that the developments and planning for medical care be continuous. It is, furthermore, the opinion of your reference committee that this is a major project before your House of Delegates and that it warrants continuing investigation, study and most careful consideration and planning.

2. Your reference committee concurs in the following recommendations of the Committee on National Emergency Medical Service and recommends their adoption:

(*a*) The President of the United States of America and the Congress should be respectfully urged:
(1) That in war and in peace the Surgeons General of the armed forces have the authority and responsibility for participation, with commensurate rank and at the level of the Chief of Staff and the Chief of Naval Operations of the armed forces, in all military and naval planning, organization and operations as these relate to medical, health, sanitary and welfare services and for the assignment and utilization of medical and allied personnel at home and abroad.

(*b*) That the Secretary of War and the Secretary of the Navy and such other cabinet officers as may be charged with responsibility for our national defense give consideration to possible civilian requirements in a total war in the planning, location and construction of military hospitals and that they reexamine their organizational tables and other procedures used during World War II in order to avoid (1) the medical overstaffing of units; (2) the wasting of the time of doctors of medicine in the performance of nonprofessional duties; (3) the removal of an excessive number of doctors of medicine from civilian hospitals and from civilian practice, and (4) a rather widespread failure to make assignments, determine rank and provide for the rotation of doctors of medicine on the basis of their professional qualifications, experience and age.

(*c*) The American Medical Association should go on record as favoring the creation of a National Emergency Medical Service Administration as a continuing function of government, such administration to consist of representatives of the Advisory Board for Medical Specialties, American College of Physicians, American College of Surgeons, American Dental Association, American Hospital Association, Catholic Hospital Association, Protestant Hospital Association, American Medical Association, American Nurses Association, American Pharmaceutical Association, American Public Health Association, American Veterinary Medical Association and Association of American Medical Colleges.

3. National Emergency Medical Service Administration: This Administration shall be charged with the responsibility at all times (1) for effecting plans for total mobilization of the medical and allied resources of the nation; (2) for the procurement and allotment of medical and allied personnel in case of a national emergency; (3) for the coordination of civil and military medical and allied services in times of threatened or actual national emergency, provided that in the exercise of this function there shall be added to the Administration the following members: the Surgeon General, U. S. Army; the Surgeon General, U. S. Navy; the Surgeon General, U. S. Public Health Service; the Air Surgeon; the Medical Director, Veterans Administration; a representative of the National Research Council, and a representative of the American Red Cross.

4. Creation of Council on National Emergency Medical Service: In reference to that part of the report that pertains to the continuous study of this very important assignment, your reference committee concurs in the recommendations of your Committee on National Emergency Medical Service and recommends that this House of Delegates authorize the Board of Trustees of the American Medical Association to create and

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appoint a standing committee to be designated as the Council on National Emergency Medical Service.

5. Commendation of Work of Committee: Your reference committee commends the Committee on National Emergency Medical Service for the very exhaustive investigation and study which has resulted in this timely, efficient and epochal conclusive report. It recommends that the House of Delegates extend a vote of thanks to the members of this committee.

Respectfully submitted,

CHARLES H. PHIFER,
Chairman.
HERBERT P. RAMSEY.
JAMES R. MCVAY.
FRANK L. COLE.
MORTON D. WILLCUTTS.
THOMAS A. FOSTER.
GEORGE P. JOHNSTON.

Report of Reference Committee on General Medical Practice

Dr. Wingate M. Johnson, Chairman, presented the following report, which was adopted section by section and as a whole, on motions of Dr. Johnson, duly seconded and carried:

Your committee had referred to it the supplementary report of the Council on Medical Education and Hospitals together with a resolution from the Colorado State Medical Society and resolutions from the Medical Society of the County of Kings.

1. Supplementary Report of Council on Medical Education and Hospitals Dealing with Upholding Prestige of General Practitioners: Your committee feels that this report of the Council should do much to clarify the atmosphere so far as the relationship of the general practitioner to hospitals is concerned. Your committee recommends the adoption of this report.

2. Resolution on Change of Policy of American Specialty Boards and Resolutions on Inclusion of General Practitioners on Staffs of Hospitals: Your committee recommends that these resolutions be referred to the Council on Medical Education and Hospitals for consideration and for such recommendations to the specialty boards as may seem warranted.

Respectfully submitted,

WINGATE M. JOHNSON,
Chairman.
THOMAS K. GRUBER.
WARREN L. ALLEE.
HOWARD E. GRIFFIN.
H. G. HAMER.
E. VINCENT ASKEY.
FORREST L. LOVELAND.

The House recessed at 12 noon to reconvene at 1 p. m.

Thursday Afternoon, June 12

The House reconvened at 1 p. m., Thursday, June 12, with the Speaker, Dr. R. W. Fouts, in the chair.

Report of Reference Committee on Credentials

Dr. G. Henry Mundt, Chairman, stated that 173 delegates had been seated.

Roll Call

The Secretary, Dr. George F. Lull, called the roll.

Minutes

On motion of Dr. Val H. Fuchs, Louisiana, seconded by Dr. Clark Bailey, Kentucky, and carried, the House dispensed with the reading of the minutes.

ELECTION OF OFFICERS

Nominations for President-Elect

Dr. F. S. Crockett, Indiana, nominated Dr. R. L. Sensenich, South Bend, Ind., for President-Elect and the nomination was seconded by the delegations from Pennsylvania, Illinois, Alabama, Florida, Rhode Island, New York, Connecticut, Michigan, California, Ohio and Nebraska.

Dr. Walter E. Vest, West Virginia, nominated for President-Elect Dr. James R. Bloss, Huntington, W. Va., and the nomination was seconded by the delegation from Missouri, and Dr. Arthur J. Bedell, Section on Ophthalmology.

On motion of Dr. E. R. Samuel, Pennsylvania, seconded by several and carried, the nominations were closed.

Nomination for Vice President

Dr. James R. Reuling, New York, placed in nomination for Vice President the name of Dr. Thomas A. McGoldrick, Brooklyn. The nomination was seconded by Dr. T. K. Gruber, Michigan.

Dr. Roy B. Henline, Section on Urology, moved that the nominations be closed, and the motion was seconded by several and carried.

Nomination for Secretary

Dr. Arthur J. Bedell, Section on Ophthalmology, nominated Dr. George F. Lull, Chicago, for Secretary. The nomination was seconded by several. On motion, duly made, seconded and carried, nominations for Secretary were closed.

Nomination for Treasurer

The Speaker announced that nominations for Treasurer are submitted by the Board of Trustees.

Dr. Elmer L. Henderson, Trustee, reported that the Board of Trustees placed in nomination for Treasurer the name of Dr. Josiah J. Moore, Chicago, the present Treasurer. On motion of Dr. Arthur J. Bedell, Section on Ophthalmology, seconded by several and carried, the nomination of Dr. Moore was confirmed and the Speaker announced that Dr. Josiah J. Moore was nominated as Treasurer.

Nomination for Speaker of House of Delegates

The Vice Speaker, Dr. F. F. Borzell, assumed the chair and called for nominations for Speaker of the House of Delegates.

Dr. Karl S. J. Hohlen, on behalf of the Nebraska delegation, placed in nomination for Speaker of the House of Delegates the present incumbent, Dr. R. W. Fouts, Omaha, to succeed himself, and the nomination was seconded by several.

Nominations for Speaker of the House of Delegates were then closed on motion regularly made, seconded and carried.

Nomination for Vice Speaker of House of Delegates

The Speaker resumed the chair, and Dr. William Bates, Pennsylvania, placed in nomination for Vice Speaker of the House of Delegates the name of Dr. F. F. Borzell, Philadelphia, and the nomination was seconded by several. On motion of Dr. James Beebe, Delaware, seconded by several and carried, the nominations for Vice Speaker were closed.

Nominations for Trustees

TRUSTEE TO SUCCEED DR. R. L. SENSENICH

Dr. B. J. Hein, Ohio, placed in nomination as Trustee to succeed Dr. R. L. Sensenich, whose term has expired and who is not eligible for reelection, the name of Dr. E. J. McCormick, Toledo, Ohio, and the nomination was seconded by several. On motion duly made, seconded and carried, the nominations for Trustee to succeed Dr. R. L. Sensenich were closed.

TRUSTEE TO SUCCEED DR. DWIGHT H. MURRAY

Dr. John W. Cline, California, placed in nomination the name of Dr. Dwight H. Murray, Napa, Calif., as Trustee to succeed himself, and the nomination was seconded by several.

Dr. F. J. L. Blasingame, Texas, placed in nomination the name of Dr. Britton E. Pickett Sr., Carrizo Springs, Texas, and the nomination was seconded by Dr. Howard E. Griffin, Section on General Practice of Medicine, and Dr. Wingate M. Johnson, North Carolina.

Dr. Harry Eno, Isthmian Canal Zone, placed in nomination the name of Dr. Lloyd Noland, Fairfield, Ala., but Dr. Noland immediately declined the nomination.

On motion regularly made, seconded and carried, the nominations were closed.

The House recessed a few minutes to await the arrival of the President, Dr. Edward L. Bortz.

Nominations by Board of Trustees

NOMINATION FOR MEMBER OF COUNCIL ON MEDICAL EDUCATION AND HOSPITALS TO SUCCEED DR. JOHN H. MUSSER

Dr. Elmer L. Henderson, Trustee, announced that the Board of Trustees placed in nomination as a member of the Council to succeed Dr. John H. Musser, the names of Dr. John H. Musser, New Orleans, and Dr. Wingate M. Johnson, Winston-Salem, N. C.

NOMINATION FOR MEMBER OF COUNCIL ON MEDICAL EDUCATION AND HOSPITALS TO SUCCEED DR. CHARLES GORDON HEYD, RESIGNED

Dr. Elmer L. Henderson, Trustee, announced that Dr. Charles Gordon Heyd, New York, had resigned as a member of this Council and his resignation had been accepted. The Board of Trustees, therefore, placed in nomination to succeed Dr. Heyd the names of Dr. James J. Waring, Denver, and Dr. William S. Middleton, Madison, Wis.

Dr. Wingate M. Johnson withdrew his name from nomination.

NOMINATION FOR MEMBER OF COUNCIL ON MEDICAL SERVICE TO SUCCEED DR. JAMES R. MCVAY

Dr. Elmer L. Henderson for the Board of Trustees placed in nomination to succeed Dr. James R. McVay as a member of the Council on Medical Service the names of Dr. James R. McVay, Kansas City, Mo.; Dr. James Stevenson, Tulsa, Okla., and Dr. Joseph D. McCarthy, Omaha.

NOMINATION FOR MEMBER OF COUNCIL ON MEDICAL SERVICE TO SUCCEED DR. RAYMOND L. ZECH

Dr. Elmer L. Henderson, for the Board of Trustees, stated that Dr. Raymond L. Zech had stated that he could not see his way clear to continue on the Council and for that reason the Board did not nominate him to succeed himself. The Board placed in nomination to succeed Dr. Raymond L. Zech on the Council on Medical Service the names of Dr. Jesse D. Hamer, Phoenix, Ariz., Dr. Raymond F. Peterson, Butte, Mont., and Dr. E. N. Roberts, Pocatello, Idaho.

Dr. James Stevenson, Tulsa, Okla., withdrew his name from nomination, as did Dr. Joseph D. McCarthy, Omaha.

Nominations by President

NOMINATION FOR MEMBER OF JUDICIAL COUNCIL TO SUCCEED DR. LLOYD NOLAND

Dr. Edward L. Bortz, President, nominated Dr. Lloyd Noland to succeed himself as a member of the Judicial Council.

NOMINATIONS FOR MEMBERS OF THE COUNCIL ON SCIENTIFIC ASSEMBLY TO SUCCEED DR. CLYDE L. CUMMER AND DR. EDWARD L. BORTZ

Dr. Edward L. Bortz, President, nominated for membership on the Council to succeed Dr. Clyde L. Cummer the name of Dr. Stanley P. Reimann, Philadelphia, and, to complete the unexpired term of Dr. Edward L. Bortz, the name of Dr. L. J. Jackson, San Antonio, Texas.

Nominations by Board of Trustees

Dr. Elmer L. Henderson, for the Board of Trustees, announced that since Dr. Edward J. McCormick has been proposed for Trustee and is unopposed, this leaves another vacancy on the Council on Medical Service to complete the unexpired term of Dr. McCormick. The Board placed in nomination for this position the names of Dr. Robert Novy, Detroit, Dr. L. Howard Schriver, Cincinnati, and Dr. Elmer Hess, Erie, Pa.

Dr. Schriver withdrew his name from nomination.

Places of 1948, 1949 and 1950 Annual Sessions

After Dr. Robertson Ward, California, had extended an invitation to meet in San Francisco in 1950, Dr. Elmer L. Henderson, for the Board of Trustees, presented the following report:

The Board of Trustees recommends that the 1948 annual session be held in Chicago, and that the 1949 session be held in Atlantic City instead of in St. Louis in 1948 and in New York in 1949 as previously voted. Invitations for the 1950 session have been received from Atlantic City and San Francisco. In view of the fact that many cities are now considering building convention halls and hotels, the Board of Trustees recommends that the selection of the meeting place for 1950 be postponed until the Board of Trustees has more information regarding facilities of various cities for housing a session of the Association.

Dr. T. K. Gruber, Michigan, moved that the House concur in the recommendation of the Board and the motion was seconded by Dr. Thomas S. Cullen, Maryland.

Dr. Hilton S. Read, New Jersey, moved to amend the motion for the House to concur in the recommendations of the Board of Trustees but proceed to vote on the 1950 meeting place as San Francisco. This motion was seconded by Dr. John W. Green, California, and carried after discussion.

The Speaker announced that the motion as amended would be that the annual session in 1948 be held in Chicago, that of 1949 in Atlantic City and that of 1950 in San Francisco. The motion as amended carried.

It was moved by Dr. Rollo K. Packard, Illinois, that the candidates without opposition be elected by acclamation. The motion was seconded by Dr. E. R. Samuel, Pennsylvania, and carried.

The Secretary announced that the following named candidates had no opposition: Dr. Thomas A. McGoldrick, New York, for Vice President for the ensuing year; Dr. George F. Lull, Chicago, for Secretary for the ensuing year; Dr. Josiah J. Moore, Chicago, for Treasurer for the ensuing year; Dr. R. W. Fouts, Omaha, for Speaker of the House of Delegates for the ensuing year; Dr. F. F. Borzell, Philadelphia, for Vice Speaker of the House of Delegates for the ensuing year; for Trustee to succeed Dr. R. L. Sensenich for a term of five years, Dr. E. J. McCormick, Toledo, Ohio; for member of the Judicial Council for a term of five years, Dr. Lloyd Noland, Fairfield, Ala.; for member of the Council on Medical Education and Hospitals for a term of seven years, Dr. John H. Musser, New Orleans; for member of the Council on Scientific Assembly for a term of five years, Dr. Stanley P. Reimann, Philadelphia; for member of the Council on Scientific Assembly to complete the unexpired term of Dr. Edward L. Bortz ending in 1948, Dr. L. B. Jackson, San Antonio, Texas, and for member of the Council on Medical Service for a term of three years, Dr. James R. McVay, Kansas City, Mo.

The Vice Speaker assumed the Chair.

It was moved by Dr. Lowell S. Goin, California, seconded by Dr. Thomas S. Cullen, Maryland, and carried unanimously that the Secretary cast the ballot of the House for each of the nominees without opposition whose names the Secretary had just read and the Secretary cast the ballot of the House electing these candidates and the Vice Speaker declared them elected as indicated.

The ballot sheets were distributed by the tellers for vote on the remaining candidates for office and these ballots were deposited in the ballot box by each delegate on roll call by the Secretary.

On motion of Dr. Forrest J. Pinkerton, Hawaii, duly seconded and carried, the tellers retired to tabulate the ballot.

Nominations for and Election of Affiliate Fellows

Dr. George F. Lull, Secretary, read the following nominations for Affiliate Fellowship made by the various constituent associations and approved by the Council on Scientific Assembly, who were elected to Affiliate Fellowship on motion of Dr. E. S. Hamilton, Illinois, seconded by Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology and carried.

CALIFORNIA

Avery, John Waite, Hollywood.
Beebe, J. L., Laguna Beach.
Boyce, Lee, San Marcos.
Burnham, Clark J., Berkeley.
Clark, Wm. R. F., San Francisco.
Coffey, G. C., Ventura.
Duffey, G. W., Sacramento.
Fogg, K. S., Wasco.
Galbraith, A., Oakland.
Hilliard, Carlos G., Redlands.
Laist, Otto, San Francisco.
Lacey, Martin J., Albany.
Legge, Robert T., Berkeley.
McCausland, W. S., Chula Vista.
Mortensen, Wm. S., Los Angeles.
Ramsay, Robert E., Pasadena.
Schmitt, Lionel S., San Francisco.
Singer, J. J., Beverly Hills.
Walker, G. W., Fresno.
Walker, J. R., Carmel.
Wallace, W. S., Orange.

ILLINOIS

Gill, John Joseph, Chicago.
Thomas, Victor D., Chester.
Voorhees, Charles H., Hutsonville.
Wheeler, A. M., Oak Park.

IOWA

Vollmer, Karl, Davenport.

MINNESOTA

Robbins, C. P., Winona.

MISSOURI

Bassett, Charles W., Madison, N. Y.
Grauerholz, J. W., Kansas City.
Krebs, Frank J. V., Clayton.
MacDonald, J. W., St. Louis.
Reid, C. T., Joplin.
Schisler, Edwin, St. Louis.
Skinner, John O., Kansas City.
Stewart, James, Jefferson City.
Woodruff, Frederick E., St. Louis.
Zahorsky, John, St. Louis.

NEBRASKA

Fahnestock, C. L., Lincoln.
Furgason, Allen P., Lincoln.
Lyman, R. A., Lincoln.
McCree, E. J., Table Rock.
Newell, H. J., Alexandria.
Teal, F. F., Lincoln.

NEW YORK

Fronczak, Francis E., Buffalo.
Sobel, Jacob, New York.
Titus, Edward C., New York.

PENNSYLVANIA

Hartman, Lawton M. Jr., York.
Thomas, T. Turner, Philadelphia.
Yagle, George N., Red Lion.

TEXAS

Hathcock, Alfred L., Palestine.

WEST VIRGINIA

Kemper, A. J., Lost Creek.

WISCONSIN

Boslough, Arthur William, Wausau.
Brown, George V. I., Milwaukee.
Creasy, L. E., Monroe.
Davies, R. E., Waukesha.
Dodd, John M., Ashland.
Donnelly, Francis J., North Lake.
Egan, Gregory J., LaCrosse.
Evans, Joseph S. Jr., Madison.
Ground, William E., Superior.
Leicht, Phillip, Lake Mills.
Lueck, George W., LaCrosse.
Malloy, T. E., Random Lake.
McHugh, Francis T., Chippewa Falls.
Perrin, H. E., Star Prairie.
Senn, Christian U., Ripon.
Somers, A. J., Chippewa Falls.
Wilkinson, M. R., Oconomowoc.

Nominations for and Election of Associate Fellows

The Secretary presented the following nominations for Associate Fellowship approved by the Judicial Council or by the sections indicated and the nominees were elected to Associate Fellowship on motion of Dr. E. S. Hamilton, Illinois, seconded by Dr. L. J. Kosminsky, Arkansas, and carried:

JUDICIAL COUNCIL

Hume, Walter F., Auburndale, Mass.
Den Dulk, F. W., Suyo, Anglo Egyptian Sudan.
Laughead, Chas. A., Assiut, Egypt.
Martin, Grace K., Shanghai, China.
Richli, Elmira M., Surat, India.
Wade, H. W., Palawan, P. I.
Widdowson, Harold R., Norwood, Pa.

SECTION ON EXPERIMENTAL MEDICINE AND THERAPEUTICS

Beyer, Karl H., Bala Cynwyd, Pa.
Feirer, William A., Narberth, Pa.
Hellbaum, Arthur A., Oklahoma City.
Hueper, W. C., Scarsdale, N. Y.
Lisi, Alfred G., Philadelphia.
Sidwell, Albert E. Jr., Chicago.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Field, John, Stanford University, Calif.

Miscellaneous

On motion of Dr. E. S. Hamilton, Illinois, seconded by Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, Dr. Robert T. Devereux, Pennsylvania was granted permission to present a Resolution on Felicitations, no copy of which was presented to the Secretary, which was adopted on motion of Dr. George W. Kosmak, New York, duly seconded and carried.

Dr. E. S. Hamilton, Illinois, moved that the Speaker of the House appoint an interim committee of five or seven men as he sees fit to study methods and means whereby the work of the House can be expedited, the committee to report back at the supplemental session. The motion was seconded by Dr. George W. Kosmak, New York, and carried.

The Vice Speaker, in the Chair, recognised the duly reelected Speaker of the House, who spoke as follows:

I didn't know that was coming, but I do want to take this opportunity to express our very sincere appreciation of the cooperation we have had from the delegates at this session, through the rather long, strenuous sessions, as Dr. Hamilton has just said. It is due wholly to the cooperation that you have given us all the way along that we were able to dispose of many things, and I think most of them in a manner that we will be satisfied with in future days to come.

I also want to express my appreciation and gratefulness for the recognition again tendered me. I will give you my best and hope to see you all again in December. Thank you a lot.

The Vice Speaker spoke as follows: While we are waiting for the final count on the election, may I take this opportunity also to humbly thank the House of Delegates for its renewed acceptance of my services in the past and I hope that we can continue to carry on with your cooperation.

Dr. H. B. Everett, Tennessee, moved that before the House adjourns it would be entirely in order that this House express its appreciation to the Medical Society of New Jersey and the Atlantic City citizens for the hospitality that we have received at this session, which has been fine for the large number of people that we have had here. That should be a part of our record at this meeting, and the local committee should be included. The motion was seconded by several and carried.

Dr. James R. Reuling, New York, moved that in the preparation for this session in Atlantic City, there have been numerous committees who have worked very hard and very long under the chairmanship of Dr. Edward Cunniffe and all members of the committees who have worked so hard to make this, our Centennial Celebration, the grand success it has been, should receive the thanks of this House. The motion was seconded by Dr. Walter E. Vest, West Virginia, and carried.

The Vice Speaker asked if there were any other expressions of appreciation or criticism while we are waiting for the tellers.

Dr. William Bates, Pennsylvania, moved to extend the thanks of this House to all those from 535 North Dearborn Street, who have done everything before and during this session to make our life more pleasant, and the motion was seconded by several.

The Vice Speaker stated that it has been moved and seconded that a vote of thanks be extended to our friends and members of 535 North Dearborn Street, and, if he may be permitted to to state explicitly, Miss Niehoff and Miss Whelan. The motion carried.

Dr. L. J. Kosminsky, Arkansas, moved that the House of Delegates extend a vote of thanks to the retiring President who has done some outstanding work during his year.

The audience arose and applauded, and the Vice Speaker stated that he knew a vote was wanted but that it was obvious.

Dr. H. H. Shoulders, Past President, spoke as follows: I would not dare let this opportunity pass without expressing to you again my very great appreciation of the many courtesies that have been extended to me, the many hospitalities, and the perfectly wonderful cooperation. My memory of the functions of this House goes back a good many years, first as a member, next as a Vice Speaker, next as your Speaker, finally as President-Elect and President. It is a record of which I am very proud, but I am proud of nothing so much as the affection and esteem that you have so graciously displayed.

The Vice Speaker declared a short recess, subject to the receipt of the report of the tellers.

Report of Tellers

The Speaker resumed the chair.

Dr. J. Wallace Hurff, Chairman, reported the results of the election:

The vote for President-Elect was 123 for Dr. R. L. Sensenich and 35 for Dr. James R. Bloss. The Speaker declared Dr. R. L. Sensenich elected to the office of President-Elect of the American Medical Association.

On motion of Dr. Walter E. Vest, West Virginia, duly seconded and carried, the election of Dr. Sensenich was made unanimous.

Dr. Hurff reported that the vote for member of the Board of Trustees to succeed Dr. Dwight H. Murray was 125 for Dr. Murray and 32 for Dr. B. E. Pickett Sr., and the Speaker declared Dr. Dwight H. Murray, Napa, Calif., elected Trustee for a term of five years.

On motion of Dr. B. E. Pickett Sr., Texas, seconded by several and carried, the election of Dr. Dwight H. Murray was made unanimous.

Dr. Hurff reported further that the vote for a member of the Council on Medical Education and Hospitals to fill out the unexpired term of Dr. Charles Gordon Heyd, resigned, expiring in 1951, stood 116 for Dr. William S. Middleton and 26 for Dr. James J. Waring, and the Speaker declared Dr. Middleton elected.

Dr. Hurff reported further that the vote for the election of a member of the Council on Medical Service to fill the unexpired term of Dr. Edward J. McCormick, now a Trustee, to expire in 1949, was 85 for Dr. Elmer Hess and 60 for Dr. Robert Novy. The Speaker declared Dr. Elmer Hess elected.

Dr. Hurff reported the vote for the election of a member of the Council on Medical Service to succeed Dr. Raymond L. Zech, 26 for Dr. R. F. Peterson, 60 for Dr. Jesse D. Hamer and 55 for Dr. E. N. Roberts. The Speaker declared that since no one had received a majority of the votes cast, a new ballot would have to be taken omitting the name of Dr. R. F. Peterson.

The tellers spread the ballot and the Secretary announced that Dr. Hamer had received 44 votes and Dr. Roberts 37. The Speaker declared Dr. Jesse D. Hamer, Phoenix, Ariz., elected a member of the Council on Medical Service for a term of three years.

Address of President-Elect Dr. R. L. Sensenich

Dr. R. L. Sensenich, President-Elect, was presented by the delegation from Indiana and addressed the House as follows:

Mr. Speaker and Members of the House: Anyone who has had so long connection with the affairs of the American Medical Association and has been so proud of its progress could not fail to be fully appreciative of the honor of being selected as its President-Elect. I am greatly honored and I shall do my best to be worthy of that confidence.

I have something a bit more in mind. I don't know that I can in this moment tell it well. Perhaps it is only a bit of emotion that you may discount. We have all had wide contacts and are familiar with the motivations of the individual physician and the objectives and the progress of the Association. This centennial in our history points to our accomplishments, of which we can be very proud. The Association cannot be given all the credit for the improvement in the general health. However, attention must be directed to the fact that twenty-five years added to the average of the lives of 130,000,000 people is a stupendous dividend.

I am very greatly impressed with what physicians and the American Medical Association can do in the years ahead. This centennial, the Scientific Exhibit, the medical program, the actions of this House of Delegates and the support of the membership in expression of unanimous willingness to cooperate in the activities of the American Medical Association are very, very heartening.

However, no one familiar with medical history and progress could fail to recognize the great responsibility that will rest on the medical profession and the American Medical Association. I should like to feel that this Centennial Celebration is in a sense a rededication of the efforts of the medical profession of America to maintain the old traditions, the high motivations and unselfish guidance in directing the progress of medicine and providing public leadership in matters of health.

I hope that as your President-Elect I may be able to emphasize these high motivations of medical men and organizations.

The House adjourned at 4:30 p. m.

Registration at the Centennial Session

The total registration at Atlantic City was 15,667. Below are summaries by sections and daily by states:

Registration by Sections

Section	June 9	10	11	12	13	Total
Internal Medicine	2,054	803	289	276	41	3,464
Surgery, General and Abdominal	962	406	442	326	37	2,113
Obstetrics and Gynecology	340	181	191	122	20	854
Ophthalmology	206	146	154	105	6	616
Laryngology, Otology and Rhinology	176	99	124	68	13	480
Pediatrics	273	179	132	129	21	760
Experimental Medicine and Therapeutics	28	8	7	7	..	50
Pathology and Physiology	147	67	58	41	4	317
Nervous and Mental diseases	134	73	56	43	20	277
Dermatology and Syphilology	165	141	109	39	5	459
Preventive and Industrial Medicine and Public Health	103	82	63	28	3	344
Urology	137	65	62	63	5	332
Orthopedic Surgery	127	80	114	33	11	365
Gastroenterology and Proctology	208	89	37	37	2	373
Radiology	200	105	102	43	20	470
Anesthesiology	102	45	55	43	15	254
General Practice of Medicine	632	349	250	174	6	1,411
Miscellaneous Topics	13	...	...	...	..	13
Session on History of Medicine	1	1	..	1	..	3
Session on Physical Medicine	29	11	20	9	3	72
Session on Allergy	47	10	15	9	11	92
No section indicated	549	295	292	151	..	1,287
Two sections indicated	114	276	78	43	56	617
Total	7,373	3,313	2,922	1,738	321	15,667

Daily Registration by States

States	Mon.	Tues.	Wed.	Thurs.	Fri.	Total
Alabama	48	13	5	4	1	71
Arizona	26	6	..	3	..	35
Arkansas	21	9	1	1	1	33
California	303	95	23	15	1	437
Colorado	68	15	4	6	1	94
Connecticut	181	64	37	26	4	314
Delaware	29	24	11	30	3	105
District of Columbia	200	70	29	65	7	370
Florida	139	36	7	14	..	196
Georgia	81	30	10	10	1	132
Idaho	13	2	..	..	..	15
Illinois	427	130	43	37	4	641
Indiana	129	58	8	12	2	209
Iowa	48	17	4	5	..	74
Kansas	58	6	2	3	..	69
Kentucky	82	17	4	4	..	108
Louisiana	54	10	4	4	2	89
Maine	16	7	..	8	..	31
Maryland	247	96	55	70	11	487
Massachusetts	292	113	21	59	7	492
Michigan	214	65	21	21	1	322
Minnesota	108	40	13	10	2	173
Mississippi	19	5	2	..	..	26
Missouri	125	42	7	7	2	183
Montana	7	3	..	1	..	11
Nebraska	68	18	1	4	..	91
Nevada	5	4	..	..	..	9
New Hampshire	14	3	2	4	..	24
New Jersey	491	242	603	262	20	1,702
New Mexico	7	1	1	1	..	10
New York	1,283	700	770	260	82	3,095
North Carolina	90	58	9	15	1	173
North Dakota	7	6	..	1	..	14
Ohio	415	135	26	27	3	616
Oklahoma	44	15	2	3	..	64
Oregon	16	8	5	2	1	32
Pennsylvania	983	600	1,008	622	112	3,325
Rhode Island	53	20	4	4	..	81
South Carolina	43	21	..	2	..	66
South Dakota	7	1	..	..	..	8
Tennessee	79	28	5	5	1	118
Texas	172	45	15	4	3	242
Utah	20	8	2	2	..	32
Vermont	15	5	3	2	..	24
Virginia	158	84	15	22	..	277
Washington	49	14	3	1	..	67
West Virginia	79	22	8	9	1	120
Wisconsin	90	23	6	7	..	126
Wyoming	6	2	..	..	..	8
Foreign	290	105	21	61	7	487
Total	7,373	3,313	2,922	1,738	321	15,667

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit at the Centennial Celebration of the American Medical Association was not only the largest ever presented but also the best in the opinion of numerous visitors. There were many historical exhibits, including rare books and pictures, but the main emphasis was on graduate medical instruction for the physician in the general practice of medicine. Demonstrations were continuous throughout the week in all of the 289 booths, with crowds that taxed the capacity of the aisles. Foreign physicians who were present as guests of the Association expressed amazement at the enormous amount of teaching material presented and at the manner in which physicians of great reputation made themselves accessible to all visitors.

The Special Exhibits subsidized by the Board of Trustees—four in number—were outstanding. The Special Exhibit on Fractures, using five booths, was presented under the auspices of a committee consisting of Dr. Kellogg Speed, Chicago, chairman, Dr. Frank D. Dickson, Kansas City, and Dr. Gordon M. Morrison, Boston. This exhibit has been a feature of the annual sessions almost continuously for twenty years, with Dr. Speed acting as the guiding genius. The Committee on Awards expressed "its deep gratitude, a feeling shared by a whole generation of physicians," to Dr. Speed. A pamphlet describing the exhibit was distributed.

The Special Exhibit on Cardiovascular Diseases occupied seventeen booths. Dr. Paul Dudley White, Boston, was the chairman of a large committee which presented a magnificent display covering all phases of the subject. An interesting feature was a collection of stethoscopes from the earliest models to the present time shown by the Army Institute of Pathology. A pamphlet describing various details of the exhibit was distributed.

The Special Exhibit on Physical Medicine, including physical therapy, occupational therapy and rehabilitation, was shown for the second consecutive year, occupying nine booths. Dr. Frank H. Krusen, Rochester, Minn., chairman, Dr. Winfred Overholser, Washington, D. C., and Dr. Howard A. Rusk, New York, were assisted by a large number of demonstrators. Patients in the various booths added to the interest of the exhibit, requiring a small grandstand to take care of the crowd of visitors. A pamphlet was distributed in connection with the exhibit and motion pictures were shown in an adjoining area.

The Special Exhibit on Fresh Pathologic Material was shown again after a lapse of some years. The committee in charge included Dr. Frank W. Konzelmann, Atlantic City, Dr. Jefferson H. Clark, Philadelphia, and Dr. Edwin S. Gault, Philadelphia, assisted by a large group of demonstrators. Pathologic material was brought daily from Philadelphia for display in addition to material collected in Atlantic City. The constant crowd of visitors at this exhibit gave proof of its teaching value.

Among the many historical exhibits was a group of sixteen booths depicting the activities of the American Medical Association during the past hundred years. Dr. L. M. Tocantins, Philadelphia, contributed material connected with the founding of the Association in 1847 and Dr. Thurman B. Rice, Indianapolis, showed specimens and photographs from the first Scientific Exhibit in 1859.

The Section on Internal Medicine presented a group of twenty-nine exhibits, three of which won awards, including a gold medal. Dr. Thomas C. Garrett, Philadelphia, was the section representative.

The Section on Surgery, General and Abdominal, had twenty-seven exhibits. There were six awards, one of which included a silver medal. Dr. Warren H. Cole, Chicago, was the section representative.

The Section on Obstetrics and Gynecology sponsored a group of ten exhibits, one of which received an award. Dr. Frederick H. Falls, Chicago, was the section representative.

The Section on Ophthalmology presented nine exhibits, one of which received an award. The exhibit committee of the section consisted of Dr. Georgiana D. Theobald, Oak Park, Ill., chairman, Dr. Derrick Vail, Chicago, and Dr. A. B. Reese, New York.

The Section on Laryngology, Otology and Rhinology presented seven exhibits, one of which received an award. The section representative was Dr. Paul H. Holinger, Chicago.

The Section on Pediatrics presented a group of eight exhibits. Dr. Albert V. Stoesser, Minneapolis, was the section representative.

The Section on Experimental Medicine and Therapeutics had fifteen exhibits, one of which won an award. Dr. Robert W. Wilkins, Boston, was the section representative.

The Section on Pathology and Physiology presented fifteen exhibits, two of which received awards. Dr. Frank W. Konzelmann, Atlantic City, N. J., was the section representative.

The Section on Nervous and Mental Diseases presented eight exhibits. The section representative was Dr. A. B. Baker, Minneapolis.

The Section on Dermatology and Syphilology had nine exhibits. There were two awards, one of which was a silver medal. Dr. Francis W. Lynch, St. Paul, was the section representative.

The Section on Preventive and Industrial Medicine and Public Health presented sixteen exhibits. There were three awards, one of which was a bronze medal. Dr. Paul A. Davis, Akron, Ohio, was the section representative.

The Section on Urology presented eleven exhibits, two of which won awards, including a gold medal. Dr. John H. Morrissey, New York, was the section representative.

The Section on Orthopedic Surgery presented eight exhibits with two awards. Dr. David M. Bosworth, New York, was the section representative.

The Section on Gastro-Enterology and Proctology presented ten exhibits. Dr. Donovan C. Browne, New Orleans, served as the section representative.

The Section on Radiology had eleven exhibits. Dr. S. W. Donaldson, Ann Arbor, Mich., served as the section representative.

The Section on Anesthesiology presented six exhibits, one of which received an award. Dr. Urban H. Eversole, Boston, was the section representative.

The Section on General Practice of Medicine presented thirteen exhibits. Dr. J. Craig Bowman, Upper Sandusky, Ohio, served as the section representative.

The Miscellaneous Group included fourteen exhibits, one of which received a bronze medal.

There were two Question and Answer Conferences conducted throughout the week on schedules arranged for each day. Cardiovascular Diseases was presented by a committee of which Dr. E. V. Allen, Rochester, Minn., was chairman. Diabetes was presented under the sponsorship of a group headed by Dr. Howard F. Root, Boston.

The Bureau of Medicine and Surgery, United States Navy, Washington, D. C., presented an exhibit dealing with atomic energy. The Medical Department of the United States Army, Washington, D. C., had a large display showing the activities of the various divisions of the department. The Veterans Administration presented a group of exhibits dealing with its various activities. Each of these services was given a special commendation by the Committee on Awards.

Motion pictures were shown in three rooms adjacent to the exhibits. Fifty-nine pictures were shown each day on a prearranged schedule. Each of the rooms was filled to capacity every day.

Twenty-seven exhibits were presented in connection with papers read before the Scientific Assembly. Forty-five exhibits were also illustrated by motion pictures shown in the motion picture rooms.

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REPORT OF THE COMMITTEE ON AWARDS

The Committee on Awards made the following report:

GROUP I

(Awards in Group I are made for exhibits of individual investigations, which are judged on the basis of originality and excellence of presentation.)

The GOLD MEDAL to George E. Burch and Paul Reaser, Tulane Medical School, New Orleans, for the exhibit on Radio Elements and Mechanism of Congestive Heart Failure Radiosodium (Na^{24} and Na^{22}).

The SILVER MEDAL to G. H. Faget, P. T. Erickson and Sister Hilary Ross, U. S. Marine Hospital, Carville, La., for the exhibit on Chemotherapy of Leprosy.

The BRONZE MEDAL to Maurice B. Visscher, A. B. Baker, R. Brown, John Adams, Alan Hemingway, R. Anthony and J. Elam, University of Minnesota, Minneapolis, for the exhibit on the Physiologic Problems of Bulbar Poliomyelitis.

CERTIFICATES OF MERIT, Group I, are awarded to the following (alphabetically arranged):

William H. Feldman and H. Corwin Hinshaw, Mayo Clinic, Rochester, Minn., and Karl Pfuetze, Mineral Springs Sanatorium, Cannon Falls, Minn., for the exhibit on Streptomycin, Experimental and Clinical Observations.

Hugo A. Freund, Gabriel Steiner and Carl E. Duffy, Harper Hospital and Wayne University College of Medicine, Detroit, for the exhibit on Recent Advances in Studies of Rheumatoid Arthritis.

E. S. Gurdjian, J. E. Webster and H. R. Lissner, Wayne University College of Medicine and Grace Hospital, Detroit, for the exhibit on Mechanism of Production of Linear Skull Fracture—Studies with the Stresscoat.

R. J. Huebner and W. L. Jellison, National Institute of Health, U. S. Public Health Service, Bethesda, Md., and Morris Greenberg, City of New York Department of Health, New York, for the exhibit on Rickettsialpox.

In addition, the following exhibits are deemed worthy of Honorable Mention (alphabetically arranged):

That of Leonard F. Bush, C. Zent Garber, William H. Von Lackum and James P. Miller, New York Orthopedic Hospital, New York, on Bone Bank and Homogenous Bone Grafts.

That of Jacob Furth, Cornell University Medical College, New York, on Induction and Characteristics of Ovarian Neoplasms with Hormonal Changes and Hypervolemia.

That of Champ Lyons, H. S. Mayerson and Paul T. DeCamp, Tulane University, New Orleans, on Chronic Shock, the Problem of Reduced Blood Volume in the Chronically Ill Patient.

That of Joe V. Meigs, Ruth M. Graham, Maurice Fremont-Smith, Somers H. Sturgis, Deloris Chapman and Marjorie Soule, Vincent Memorial Hospital, Massachusetts General Hospital, Boston, on Carcinoma of the Cervix: A New Method of Prognosis.

GROUP II

(Awards in Group II are made for exhibits which do not exemplify purely experimental studies but are judged on the basis of excellence of correlating facts and excellence of presentation.)

The GOLD MEDAL to George F. Cahill and Meyer M. Melicow, Squier Urological Clinic, Presbyterian Hospital, New York, for the exhibit on Tumors of the Adrenal Gland.

The SILVER MEDAL to Lester R. Dragstedt, Paul V. Harper, Edward R. Woodward, E. Bruce Tovee and Augustin Rodolfo, University of Chicago Medical School, Chicago, for the exhibit on Gastric Vagotomy in the Treatment of Peptic Ulcer.

The BRONZE MEDAL to Carl F. Jordan and I. H. Borts, Iowa State Department of Health, Des Moines and Iowa City, for the exhibit on Brucellosis.

CERTIFICATES OF MERIT, Group II, are awarded to the following (alphabetically arranged):

Joseph S. Barr, John A. Reidy and James R. Lingley, Massachusetts General Hospital, Boston, and Edward Gall, Bethesda Hospital, Cincinnati, for the exhibit on The Control of Epiphysial Growth by Roentgen Irradiation.

Stuart W. Harrington, Howard K. Gray and O. Theron Clagett, Mayo Clinic, Rochester, Minn., for the exhibit on Surgical Treatment of Certain Intrathoracic Lesions.

Julius Lempert and Dorothy Wolff, Lempert Institute of Otology, New York, and Philip E. Meltzer and LeRoy Schall, Massachusetts Eye and Ear Infirmary, Boston, for the exhibit on the Surgical Treatment of Clinical Otosclerosis.

Albert D. Ruedemann and Otto Glasser, Cleveland Clinic, Cleveland, for the exhibit on the Use of Radium in Ophthalmology.

In addition, the following exhibits are deemed worthy of Honorable Mention (alphabetically arranged):

That of T. J. Dry, J. E. Edwards, R. L. Parker, H. B. Burchell and H. M. Rogers, Mayo Clinic, Rochester, Minn., on Congenital Anomalies of the Heart and Great Vessels; Clinicopathologic Correlation.

That of E. L. MacQuiddy, University of Nebraska College of Medicine, Omaha, on Absorbable Powder Tissue Reactions and Physical Properties.

That of Benjamin T. Terry, Tacoma, Washington, on Razor Section Technic and the Polychroming of Methylene Blue.

That of J. Ross Veal, Georgetown University Medical School, Washington, D. C., on Hyperhidrosis—Surgical Management.

CERTIFICATE OF APPRECIATION

A Certificate of Appreciation is awarded to W. J. Kolff, Kampen, Holland, with special acknowledgment of the services rendered by T. G. Kroop and A. P. Fishman of Mount Sinai Hospital, New York, in the demonstration of the exhibit.

SUBSIDIZED EXHIBITS

The Committee on Awards commends highly the special exhibits on cardiovascular diseases, fractures, fresh pathologic material and physical medicine sponsored by the Board of Trustees of the American Medical Association. The Committee wishes to express its deep gratitude, a feeling shared with a whole generation of physicians, to Dr. Kellogg Speed, Chicago, for his twenty years of continuous untiring efforts to insure exceptional instructive fracture exhibits.

SPECIAL COMMENDATION

Special commendation is given to the historical exhibits presented by Paul E. Bechet, Elizabeth, N. J., on Synopsis of the More Important Achievements of American Dermatology; Ralph M. Waters, O. S. Orth, F. J. Pohle, Donald R. Kindsch and Lucien E. Morris, University of Wisconsin Medical School, Madison, on One Hundred Years of Chloroform, and A. H. Whittaker, Wayne University School of Occupational Health, Detroit, on the Historical Background of Occupational Diseases.

The Committee on Awards especially commends the exceptional exhibits sponsored by the Medical Department of the United States Army, the Bureau of Medicine and Surgery of the United States Navy, and the Veterans Administration, and extends the thanks of the medical profession for their wholehearted cooperation in continuing to present interesting exhibits at the Annual Meetings of the American Medical Association.

COMMENTS

The wholehearted support and active cooperation of the representatives from the seventeen sections of the Scientific Assembly have made the Centennial scientific exhibits worthy of such an event.

Special mention must be made of the excellent motion pictures which again demonstrate the increasing value of this relatively new innovation in visual education. The ones shown were carefully selected from a large number of worth while films submitted by many individuals. The large attendance at each theater attests the interest of the medical profession in this form of exhibit.

The exhibits sponsored by the American Medical Association showing the progress of medicine during one hundred years of its continued growth have proved of great interest.

The Committee on Awards again wishes to express its thanks and that of the thousands attending the Scientific Exhibit to Dr. Thomas G. Hull, Director, for his broad vision, unselfish devotion and tireless efforts in a truly Herculean task. His work has been crowned with signal success.

Respectfully submitted,

MAX M. PEET, Ann Arbor, Chairman.
ARTHUR W. ALLEN, Boston.
FRANCIS G. BLAKE, New Haven.
WILLIAM P. HERBST, Washington, D. C.
WALTER M. SIMPSON, Dayton, Ohio.

MINUTES OF THE SECTIONS

SECTION ON INTERNAL MEDICINE

WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9 o'clock by the chairman, Dr. Joseph T. Wearn, Cleveland.

Drs. A. Stone Freedburg, Herrman L. Blumgart, Paul M. Zoll and Monroe J. Schlesinger, Boston, presented a paper on "The Clinical Syndrome of Cardiac Pain Intermediate Between Angina Pectoris and Acute Myocardial Infarction, i. e. 'Coronary Failure'." Discussed by Drs. Arthur M. Master, New York; W. D. Stroud, Philadelphia; Robert L. Levy, New York; Joseph T. Wearn, Cleveland, and Herrman L. Blumgart, Boston.

Drs. George E. Burch and Clarence Thorpe Ray, New Orleans, presented a paper on "The Cardiovascular System as the Effector Organ in Psychosomatic Phenomena." Discussed by Drs. George A. Wolf Jr., New York; Mandel E. Cohen, Boston, and George E. Burch, Boston.

Dr. Ernest E. Irons, Chicago, read the Frank Billings Lecture, entitled "Frank Billings, Physician, Teacher and Citizen."

Dr. Richard H. Lyons, Syracuse, N. Y., read a paper on "Experiences with Tetraethylammonium Chloride in Hypertension." Discussed by Drs. K. G. Kohlstaedt, Indianapolis; Eugene Foldes, New York; Frederick M. Allen, New York, and Richard H. Lyons, Syracuse, N. Y.

Dr. Russell S. Boles, Philadelphia, read a paper entitled "An Appraisal of the Modern Medical and Surgical Methods of Treating Peptic Ulcer." Discussed by Drs. Walter L. Palmer, Chicago; Frank H. Lahey, Boston; A. F. R. Andresen, Brooklyn; Samuel Friedman, New York; Asher Winkelstein, New York, and Russell S. Boles, Philadelphia.

THURSDAY, JUNE 12—MORNING

The following officers were elected: Chairman, C. J. Watson, Minneapolis; vice chairman, James A. Greene, Houston, Texas; secretary, Walter L. Palmer, Chicago; trustee at large to the Billings Lectureship Fund, N. C. Gilbert, Chicago; delegate, Burrell O. Raulston, Los Angeles; representative to the Scientific Exhibit, Thomas C. Garrett, Philadelphia; executive committee, William D. Stroud, Philadelphia; Joseph T. Wearn, Cleveland; C. J. Watson, Minneapolis.

Dr. A. B. Baker, Minneapolis, read a paper on "The Diagnosis and Treatment of Bulbar Poliomyelitis." Discussed by Drs. John R. Paul, New Haven, Conn.; Hart E. van Riper, New York, and A. B. Baker, Minneapolis.

Drs. Walsh McDermott, Carl Muschenheim and Susan J. Hadley, New York, presented a paper on "Streptomycin in the Treatment of Tuberculosis in Human Beings." Discussed by Drs. J. Burns Amberson, New York; John B. Barnwell, Washington, D. C., and Walsh McDermott, New York.

Dr. Joseph T. Wearn, Cleveland, read the chairman's address, entitled "The Challenge of Functional Disease."

Drs. John S. Hirschboeck, M. C. F. Lindert, Thomas L. Calvy and Jules Chase, Milwaukee, presented a paper on "The Effects of Ethyl Carbamate (Urethane) in the Treatment of Leukemia and Metastatic Malignant Tumors." Discussed by Drs. Claude E. Forkner, New York; Leon O. Jacobson, Chicago; Edwin E. Osgood, Portland, Ore.; William Dameshek, Boston, and John S. Hirschboeck, Milwaukee.

Dr. Leandro M. Tocantins, Philadelphia, read a paper on "The Mechanism and Management of the Hemorrhagic Tendency of Congestive Splenomegaly (Banti's Syndrome)." Discussed by Drs. William Dameshek, Boston, Cecil O. Patterson, Dallas, Texas; C. J. Watson, Minneapolis, and Leandro M. Tocantins, Philadelphia.

Dr. C. H. Slocumb, Rochester, Minn., read a paper on "Concentrated Vitamin D for Rheumatism: Toxic Reactions Simulating Hyperparathyroidism." Discussed by Drs. Richard H. Freyberg, New York; Smith Freeman, Chicago, and C. H. Slocumb, Rochester, Minn.

FRIDAY, JUNE 13—MORNING

A joint meeting was held with the Section on Experimental Medicine and Therapeutics.

Dr. Hector Ducci Claro, Santiago, Chile, read the address of the invited foreign guest, on "The Contribution of the Laboratory to the Differential Diagnosis of Jaundice."

Dr. Reginald Fitz, Boston, read the Centennial Address, on the "History of the Specialty of Internal Medicine in the United States."

The following papers were read in a panel discussion on "Recent Advances in Treatment," Dr. Morris Fishbein, Chicago, acting as moderator:

Dr. Thomas M. Rivers, New York, "Virus Diseases."

Dr. Henry L. Bockus, Philadelphia, "Gastrointestinal Diseases."

Dr. Arlie R. Barnes, Rochester, Minn., "Cardiovascular Diseases."

Dr. C. P. Rhoads, New York, "Cancer."

Dr. Russell L. Haden, Cleveland, "Blood Diseases."

Dr. Chester S. Keefer, Boston, "Infectious Diseases."

Dr. James J. Waring, Denver, "Pulmonary Diseases."

Dr. Willard O. Thompson, Chicago, "Endocrinology."

SECTION ON SURGERY, GENERAL AND ABDOMINAL

WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Alton Ochsner, New Orleans.

Sir Heneage Ogilvie, London, England, read the address of the invited foreign guest, entitled "Gastric Surgery After One Hundred Years."

Dr. Alton Ochsner, New Orleans, read the chairman's address, entitled "Carcinoma of the Lung."

Dr. Richard H. Sweet, Boston, read a paper on "Transthoracic Resection of the Esophagus and Cardiac End of the Stomach for Carcinoma: An Analysis of the Postoperative Complications, Causes of Death and Late Results of Operation." Discussed by Drs. Dallas B. Phemister, Chicago; Morris Friedell, Chicago, and Richard H. Sweet, Boston.

Dr. Owen H. Wangensteen, Minneapolis, read a paper on "The Problem of Gastric Cancer." Discussed by Drs. George T. Pack, New York, and Waltman Walters, Rochester, Minn.

Dr. John M. Waugh, Rochester, Minn., read a paper on "Radical Resection of the Head and Total Pancreatectomy for Benign and Malignant Lesions of the Pancreas." Discussed by Drs. Allen O. Whipple, New York, and Richard B. Cattell, Boston.

Drs. Fred W. Rankin and Coleman C. Johnston, Lexington, Ky., presented a paper on "Surgical Management of Cancer of the Colon and Rectum." Discussed by Drs. Thomas E. Jones, Cleveland; Leland S. McKittrick, Boston, and Frank H. Lahey, Boston.

THURSDAY, JUNE 11—AFTERNOON

The following officers were elected: chairman, Dr. B. N. Carter, Cincinnati; vice chairman, Dr. Warren H. Cole, Chicago; secretary, Dr. Michael E. DeBakey, New Orleans; executive committee, Drs. Daniel C. Elkin, Atlanta, Ga.; Alton Ochsner, New Orleans, and B. N. Carter, Cincinnati; delegate, Dr. Grover C. Penberthy, Detroit; alternate, Dr. I. A. Bigger, Richmond, Va.; representative to American Board of Plastic Surgery, Dr. Bradford Cannon, Boston.

Dr. Evarts A. Graham, St. Louis, read the Centennial Address, "A Century of American Surgery."

Dr. Sidney C. Madden, Atlanta, Ga., read a paper on "Protein Nitrogen Retention Following Injury." Discussed by Drs. William Parson, New Orleans, and Sidney C. Madden, Atlanta, Ga.

Dr. Paul R. Cannon, Chicago, read a paper on "The Problem of Amino Acid Utilization in the Surgical Patient." Discussed by Drs. Robert Elman, St. Louis, and Paul R. Cannon, Chicago.

Dr. Champ Lyons, New Orleans, read a paper on "Management of Protein Deficiency in Surgical Patients: Use of Whole Blood Transfusion." Discussed by Drs. Everett I. Evans, Richmond, Va., and Hyman S. Mayerson, New Orleans.

Dr. John D. Stewart, Buffalo, read a paper on "Management of Protein Deficiency in Surgical Patients: Use of Intravenous and Intrajejunal Injections." Discussed by Drs. I. S. Ravdin, Philadelphia, and Robert Elman, St. Louis.

Dr. Richard L. Varco, Minneapolis, read a paper on "Nutritional Problems of Substandard Risk Patients." Discussed by Drs. Donald D. Kozoll, Chicago, and Michael G. Wohl, Philadelphia.

FRIDAY, JUNE 13—AFTERNOON

A joint meeting was held with the Section on Gastroenterology and Proctology.

The following papers were read in a symposium on "Peptic Ulcer":

Dr. Maurice Feldman, Baltimore: "Statistical Study of Over 1,000 Cases of Peptic Ulcer."

Drs. Henry A. Rafsky, Michael Weingarten and Charles I. Krieger, New York: "Onset of Peptic Ulcer in the Aged."

Dr. Ervin Levin, Chicago: "Nocturnal Gastric Secretion in Normal Individuals and in Peptic Ulcer."

Drs. H. M. Pollard and William Bachrach, Ann Arbor, Mich.: "Therapeutic Agents: Effect of Enterogastrone in Patient with Gastric and Duodenal Ulcer."

Dr. Leo L. Hardt, Chicago: "Therapeutic Agents: Aluminum Hydroxide Mixture with Mucin in the Treatment of Peptic Ulcer."

Drs. Manfred Kraemer and Leo H. Siegel, Newark, N. J.: "Synthetic Resin: A New Antacid for Treatment in Peptic Ulcer."

Drs. Waltman Walters, Harold A. Neibling, William F. Bradley, John T. Small and James W. Wilson, Rochester, Minn.: "Favorable and Unfavorable Results of Vagus Nerve Resections in the Treatment of Peptic Ulcer: An Anatomic, Physiologic and Clinical Study."

Drs. Samuel F. Marshall, Boston, and Mark L. Welch, Dallas, Texas: "Results of Surgical Treatment for Gastric Ulcer."

Dr. Harold Lincoln Thompson, Los Angeles: "Complications of Peptic Ulcer."

These nine papers were discussed by Drs. Lester R. Dragstedt, Chicago; Sara M. Jordan, Boston; Ralph Colp, New York; Walter L. Palmer, Chicago; Asher Winkelstein, New York; H. B. Stone, Baltimore; M. O. Grossman, Chicago; H. C. Saltzstein, Detroit; Otto De Muth, Vancouver, Canada; Russell S. Boles, Philadelphia; Richard Lewisohn, New York; Mildred Pfeiffer, Philadelphia; Hyman I. Goldstein, Camden, N. J.; David J. Sandweiss, Detroit; A. F. R. Andresen, Brooklyn; Manfred Kraemer, Newark, N. J., and Waltman Walters, Rochester, Minn.

SECTION ON OBSTETRICS AND GYNECOLOGY

WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9:10 by the chairman, Dr. Alice F. Maxwell, San Francisco.

Dr. E. A. Schumann, Philadelphia, read the Centennial Address.

Dr. J. Ernest Ayre, Montreal, Canada, read a paper on "Cervical Cytology in the Diagnosis of Early Cancer." Discussed by Drs. Charles E. Galloway, Evanston, Ill.; Arthur Wilson Footer, Oakland, Calif.; Karl H. Martzloff, Portland, Ore.; James Heyman, Stockholm, Sweden; A. E. Rakoff, Philadelphia; Mrs. R. M. Graham, Boston, and J. Ernest Ayre.

Dr. W. D. Beacham, New Orleans, read a paper on "Ectopic Pregnancy." Discussed by Drs. T. J. Williams, University Va.; Charles A. Behney, Philadelphia; Chester M. Echols, Milwaukee; Irving F. Stein, Chicago, and B. Bernard Weinstein, New Orleans.

The following papers were read in a panel discussion on "Gynecologic Bleeding," Dr. A. H. Curtis, Chicago, acting as moderator:

Dr. S. R. M. Reynolds, Baltimore: "Physiologic Basis of Menstruation: A Summary of Current Concepts."

Dr. C. F. Fluhmann, San Francisco: "Menometrorrhagia During Adolescence."

Dr. A. H. Curtis, Chicago: "Functional Bleeding."

Dr. J. P. Pratt, Detroit: "Bleeding Associated with the Menopause."

In the question and answer period Dr. Emil Novak, Baltimore, participated.

THURSDAY, JUNE 11—MORNING

The following officers were elected: chairman, Dr. W. F. Mengert, Dallas, Texas; vice chairman, Dr. R. L. Faulkner, Cleveland; secretary, Dr. Arthur B. Hunt, Rochester, Minn.; executive committee, Drs. P. F. Williams, Philadelphia; Alice F. Maxwell, San Francisco; William F. Mengert, Dallas, Texas; delegate, Dr. Jean Paul Pratt, Detroit; alternate, Dr. Harvey B. Matthews, Brooklyn; delegate to International Congress on Obstetrics and Gynecology in conjunction with Bicentenary of Rotund Hospital, Dublin, Dr. Harvey B. Matthews, Brooklyn.

Dr. Alice F. Maxwell, San Francisco, read the chairman's address, entitled "A Medical Inventory."

Dr. Arthur Grollman, Dallas, Texas, read a paper on "Effect of Pregnancy on Experimental Renal Hypertension." Discussed by Drs. Frank P. Light, Brooklyn; George E. Wakerlin, Chicago, and Arthur Grollman, Dallas, Texas.

Dr. V. S. Counseller, Rochester, Minn., read a paper on "Congenital Absence of the Vagina and Its Surgical Management." Discussed by Drs. F. H. Falls, Chicago; Leo Brady, Baltimore; J. L. Bubis, Cleveland; Arthur H. Curtis, Chicago, and V. S. Counseller, Rochester, Minn.

The following papers were read in a panel discussion on "Modern Indications for Therapeutic Abortion," in which Dr. S. A. Cosgrove, Jersey City, N. J., acted as moderator.

Dr. H. M. Korns, Dubuque, Iowa: "Therapeutic Abortion from the Standpoint of the Internist."

Dr. S. C. Harvey, New Haven, Conn.: "Surgical Indications for Therapeutic Abortion."

Drs. F. G. Ebaugh and Keith D. Heuser, Denver: "Therapeutic Abortion from the Standpoint of the Neuropsychiatrist."

Dr. S. A. Cosgrove, Jersey City, N. J.: "Summary."

FRIDAY, JUNE 13—MORNING

Dr. James Heyman, Stockholm, Sweden, read the address of the invited foreign guest, entitled "Comparability of Material in Evaluating Results of Radiotherapy of Cancer of the Uterine Cervix."

Dr. José Rabago, Mexico City, read a paper on "Cesarean Section at General Hospital of Mexico City.

Dr. William J. Dieckmann, Chicago, read a paper on "Cesarean Hysterectomy." Discussed by Drs. Arthur B. Hunt, Rochester, Minn.; S. A. Cosgrove, Jersey City, N. J.; James F. Norton, Jersey City, N. J.; William F. Mengert, Dallas, Texas, and William J. Dieckmann, Chicago.

The following papers were read in a panel discussion on "Problems of Delivery," Dr. Philip F. Williams, Philadelphia, acting as moderator.

Dr. H. Hudnall Ware Jr., Richmond, Va.: "Unusual and Abnormal Presentations as a Delivery Problem."

Dr. Wiliam F. Windle, Seattle: "Fetal Problems Associated with Delivery."

Dr. C. A. Gordon, Brooklyn: "Hemorrhage as a Delivery Complication."

Dr. Philip F. Williams, Philadelphia: Summary.

SECTION ON OPHTHALMOLOGY

WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2:05 by the chairman, Dr. Derrick Vail, Chicago.

Dr. Derrick Vail, Chicago, read the chairman's address.

Surgeon General C. A. Swanson read an address.

Sir Stewart Duke-Elder, London, England, invited foreign guest, read his address, entitled "The Nature of the Aqueous Humor."

Dr. Frederick H. Verhoeff, Boston, read the centennial address, entitled "One Hundred Years of Progress in American Ophthalmology."

Drs. Harold G. Scheie, Philadelphia, Alan S. Crandall, Salt Lake City, and Werner Henle, Philadelphia, presented a paper on "Keratitis Associated with Lymphogranuloma Venereum." Discussed by Drs. John P. Macnie, New York; Garrett L. Sullivan, Boston, and Harold G. Scheie, Philadelphia.

Drs. Peter C. Kronfeld, Chicago, and Isabelle McGarry, Evanston, Ill., presented a paper on "A Five Year Follow-Up of 300 Glaucomatous Eyes." Discussed by Drs. Algernon B. Reese, New York; M. Elliott Randolph, Baltimore; Louis Lehrfeld, Philadelphia; Thomas D. Allen, Chicago, and Peter C. Kronfeld, Chicago.

THURSDAY, JUNE 12—AFTERNOON

Dr. Thomas D. Allen, Chicago, read the report of the American Committee on Optics and Visual Physiology. It was voted that the report be received and placed on file.

Dr. Algernon B. Reese, New York, read the report on Awarding the Knapp Medal. It was voted that the report be received and placed on file.

Dr. Phillips Thygeson, San Jose, Calif., read the report of the American Board of Ophthalmology. It was voted that the report be received and placed on file.

The Secretary read the report on the Registry of Ophthalmic Pathology to May 1, 1947. It was voted that the report be accepted and filed.

Dr. Georgiana Dvorak Theobald, Oak Park, Ill., read the report of the Committee on Scientific Exhibit. It was voted that the report be accepted and placed on file.

Dr. Burton Chance, Philadelphia, read the report of the Committee on "Museum of Ophthalmic History." It was voted that the report be accepted and filed.

Dr. Truman L. Boyes, New York, read the report of the American Orthoptic Council. It was voted that the report be accepted and placed on file.

Dr. William L. Benedict, Rochester, Minn., read the report of the Advisory Committee to the Eye Health Committee of the American Student Health Association. It was voted that the report be accepted and filed.

Dr. M. Hayward Post, St. Louis, read the report of the representative of the section to the American College of Surgeons. It was voted that the report be accepted and placed on file.

Dr. Derrick Vail, Chicago, read the report of the Joint Committee of Occupational Ophthalmology. It was voted that the report be accepted and placed on file.

Dr. Parker Heath, Detroit, read the report of the Knapp Testimonial Fund. It was voted that the report be accepted and placed on file.

Dr. Arthur J. Bedell, Albany, N. Y., read his report as delegate to the House of Delegates. It was voted that the report be accepted and filed.

Dr. Conrad Berens, New York, read the report of the executive committee. It was voted that the report be accepted.

The following members were elected to membership on the Committee on Awarding the Knapp Medal: Dr. Fred Davis, Dr. Burton Chance and Dr. S. Judd Beach.

Dr. Louis Lehrfeld, Philadelphia, read the following resolution:

WHEREAS, A committee of the Philadelphia County Medical Society, consisting of ophthalmologists, obstetricians and bacteriologists, known as a committee to study the efficacy of silver nitrate in the prevention of ophthalmia neonatorum, has definitely gone on record to the effect that silver nitrate has little or no value in the prevention of ophthalmia neonatorum; and

WHEREAS, Silver nitrate as introduced by Credé in 1884 to prevent ophthalmia neonatorum has outlived its usefulness as compared with the newer antibiotics; and

WHEREAS, Ophthalmia neonatorum has not been completely eliminated, despite the use of silver nitrate; and

WHEREAS, Silver nitrate in 1 per cent and 2 per cent solutions may, at times, cause damage to the eyes of the newborn; and

WHEREAS, The expectant mother who has gonorrhea may be cured by penicillin and other antibiotics; and

WHEREAS, Forty or more states in the United States now require the use of silver nitrate in the eyes of the newborn despite the fact that the newer antibiotics are specifics against the gonococcus; therefore, be it

Resolved, That the President of the American Medical Association appoint a committee of ophthalmologists, obstetricians and bacteriologists to be known as a "Committee to Revaluate the Use of Silver Nitrate Compared with the New Antibiotics in the Prevention of Ophthalmia Neonatorum" with the express purposes:

1. To eliminate the use of silver nitrate and substitute suitable antibiotics.

2. With the view of urging a change in state laws compelling the use of silver nitrate which we now know has little or no value in the prevention of ophthalmia neonatorum; and be it further

Resolved, That such committee cooperate with the present committee of the Philadelphia County Medical Society, which has undertaken a local study of this matter, with the view of having its findings effective on a national and international scale; and be it further

Resolved, That finances to conduct experiments on "Silver Nitrate versus Antibiotics in the Prevention of Ophthalmia Neonatorum" be sought from governmental agencies on research, from governmental agencies dealing with the prevention of venereal disease, and from private agencies interested in the prevention of blindness.

It was voted that the resolution be referred to the executive committee for further study and reported back to the section at the next meeting.

A motion was made by Dr. Warren D. Horner, San Francisco, and duly seconded, that the section rescind the various resolutions regarding its attitude toward optometrists in the interest of prevention of blindness and of eye health. After discussion, the motion was put to a vote and defeated.

The following officers were elected: chairman, Dr. Everett L. Goar, Houston, Texas; vice chairman, Dr. Francis Heed Adler, Philadelphia; secretary, Dr. Trygve Gundersen, Boston; delegate, Dr. Arthur J. Bedell, Albany, N. Y.; alternate, Dr. S. Judd Beach, Portland, Maine; executive committee, Dr. Frederick C. Cordes, San Francisco; Dr. Derrick Vail, Chicago, and Dr. Everett L. Goar, Houston, Texas.

Dr. Walter H. Fink, Minneapolis, read a paper on "The Significance of the Ligament of Lockwood in Relation to Surgery of the Inferior Oblique Muscle." Discussed by Drs. Maynard C. Wheeler, New York; Harold F. Falls, Ann Arbor, Mich., and Walter H. Fink, Minneapolis.

Drs. John G. Bellows and Chester J. Farmer, Chicago, presented a paper on "Streptomycin in Ocular Infections." Discussed by Drs. Parker Heath, Detroit; Irving H. Leopold, Philadelphia, and John G. Bellows, Chicago.

Dr. Walter L. Bruetsch, Indianapolis, read a paper on "Unilateral Syphilitic Optic Atrophy." Discussed by Drs. Cecil S. O'Brien, Iowa City; Joseph V. Klauder, Philadelphia, and Walter L. Bruetsch, Indianapolis.

Dr. Leo L. Mayer, St. Louis, read a paper on "Sodium Sulfacetimide 30 per Cent in Ophthalmology." Discussed by Drs. Phillips Thygeson, San Jose, Calif.; Eugene W. Anthony, Fulton, N. Y., and Leo L. Mayer, St. Louis.

Dr. Adolph Posner, New York, presented a tonometer and an attachment to a tangent screen.

Dr. Louis Lehrfeld, Philadelphia, presented an operating head loupe.

FRIDAY, JUNE 13—AFTERNOON

Drs. Edwin L. Kendig Jr. and DuPont Guerry III, Richmond, Va., presented a paper on "Congenital Impatency of the Nasolacrimal Duct." Discussed by Drs. J. V. Cassady, South Bend, Ind.; John H. Dunnington, New York; Professor Arganaraz, Argentina; Everett L. Goar, Houston, Texas; Edwin L. Kendig Jr., Richmond, Va., and DuPont Guerry III, Richmond, Va.

Dr. George M. Haik, New Orleans, read a paper on "Intraocular Foreign Bodies: Wartime Experiences Applied to a Peacetime Problem." Discussed by Drs. John S. McGavic,

Bryn Mawr, Pa.; Frank W. Newell, Chicago, and George M. Haik, New Orleans.

Dr. Don Marshall, Kalamazoo, Mich., read a paper on "Military Ophthalmology in the European Theater." Discussed by Drs. F. Phinizy Calhoun Jr., Atlanta, Ga.; Trygve Gundersen, Boston, and Don Marshall, Kalamazoo, Mich.

Dr. S. M. Dupertuis, Pittsburgh, read a paper on "Eyelid Reconstruction in the Blinded." Discussed by Drs. Norman L. Cutler, Wilmington, Del.; Frank McDowell, St. Louis, and S. M. Dupertuis, Pittsburgh.

Drs. William C. Owens, Baltimore, and William F. Hughes Jr., Indianapolis, presented a paper on "Surgical Treatment of Congenital Cataract." Discussed by Drs. Frederick C. Cordes, San Francisco, and William C. Owens, Baltimore.

Dr. Derrick Vail, the chairman, expressed his thanks to the medical ophthalmic officers who served under him in Europe for their faithful, loyal and excellent service.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

Wednesday, June 11—Morning

The meeting was called to order at 9:05 by the chairman, Dr. J. Mackenzie Brown, Los Angeles.

Dr. Louis H. Clerf, Philadelphia, read a paper on "Progress in Bronchology." Discussed by Drs. H. B. Orton, Newark, N. J.; H. J. Moersch, Rochester, Minn.; Eelio Huizinga, Holland; André Soulas, Paris, France; Irving Wilson Voorhees, New York, and Louis H. Clerf, Philadelphia.

Dr. Paul H. Holinger, Chicago, read a paper on "Progress in Esophagology." Discussed by Drs. Fletcher D. Woodward, Charlottesville, Va.; E. G. Gill, Roanoke, Va., and Paul H. Holinger, Chicago.

Dr. Mercer G. Lynch, New Orleans, read a paper on "Traumatic Injuries of the Larynx, Especially Gunshot Wounds and Their Repair." Discussed by Drs. Joseph Buchignani, Memphis, Tenn.; J. Wade Youngblood, Dallas, Texas; G. E. Martin, Edinburgh, Scotland; H. B. Orton, Newark, N. J.; E. G. Gill, Roanoke, Va., and Mercer G. Lynch, New Orleans.

Dr. Fred Z. Havens, Rochester, Minn., read a paper on "Some Technical Procedures in the Treatment of the Cleft Lip and Palate." Discussed by Drs. Harold S. Vaughan, New York; Robert H. Ivy, Philadelphia; George M. Dorrance, Philadelphia; Irving Wilson Voorhees, New York, and Fred Z. Havens, Rochester, Minn.

Dr. LeRoy A. Schall, Boston, read a paper on "Malignant Growths of the Nose and Nasal Sinuses." Discussed by Drs. Henry B. Orton, Newark, N. J.; C. Stewart Nash, Rochester, N. Y.; G. E. Martin, Edinburgh, Scotland; Fred Z. Havens, Rochester, Minn., and LeRoy A. Schall, Boston.

Dr. A. C. Furstenberg, Ann Arbor, Mich., read a paper on "Diseases of the Salivary Glands." Discussed by Drs. LeRoy A. Schall, Boston; James Milton Robb, Detroit, and A. C. Furstenberg, Ann Arbor, Mich.

Dr. Murdock Equen, Atlanta, Ga., read a case report entitled "Nail in Duodenum Removed by Magnet."

Dr. Gabriel Tucker, Philadelphia, presented a set of instruments for children, and a flexible magnet.

Thursday, June 12—Morning

Dr. Norton Canfield, New Haven, Conn., made the following recommendation:

1. Send the enclosed letter to each member of the Section on Laryngology, Otology and Rhinology of the A. M. A. who served in the armed forces of World War I or World War II.

2. Have the secretary of the section summarize the replies and present them to the next meeting of the council for discussion and formulation of further action to be taken at the next meeting of the society.

3. Motion by Dr. Carl McCaskey, Indianapolis, seconded by Dr. J. M. Robb, that Dr. Canfield send the following letter and summarize the replies for submission to the council:

Dr. Canfield was given authority to send the following letter:

Dear Dr. ———:

As an otolaryngologist presumably interested in the status of the specialty in programs of federal medicine, such as the Army, Navy and Veterans Administration, will you kindly set forth your views as to the policy which you wish the Section on Laryngology, Otology and Rhinology of the A. M. A. to pursue in regard to organization of the specialty in any existing or future program in which there will be need for special professional services from our members. Your reply will be a part of a summary to be presented to the council of the section for discussion and formulation of a policy which will be brought before the next annual meeting of the section.

Your officers consider this request urgent, and it would help their activities if we could have your reply by Aug. 1, 1947. Now is the time for action if we are to be properly represented at the policy making level where professional direction is formulated for the care of patients who require otolaryngologic care in federal medicine programs of the future.

The following officers were elected: chairman, Dr. Fletcher D. Woodward, Charlottesville, Va.; vice chairman, Dr. John R. Simpson, Pittsburgh; secretary, Dr. J. M. Robb, Detroit; delegate, Dr. Burt R. Shurly, Detroit; alternate, Dr. Gordon Harkness, Davenport, Iowa; executive committee, Louis H. Clerf, Philadelphia; J. Mackenzie Brown, Los Angeles, and Fletcher D. Woodward, Charlottesville, Va.; representative to Committee on Scientific Exhibit, James B. Costen, St. Louis; representative to board of governors of the American College of Surgeons, James H. Maxwell, Ann Arbor, Mich.

Dr. J. Mackenzie Brown, Los Angeles, read the chairman's address.

Dr. G. Ewart Martin, Edinburgh, Scotland, invited foreign guest, read his address, entitled "The Present Position of Bronchoesophagology in Great Britain."

Dr. Ralph A. Fenton, Portland, Ore., read the centennial address, entitled "A Brief History of Otolaryngology in the United States, 1847-1947."

Dr. Carl H. McCaskey, Indianapolis, read a paper on "Neck Surgery in Otolaryngology." Discussed by Drs. August L. Beck, New Rochelle, N. Y.; Joseph D. Kelly, New York; Benjamin Shuster, Philadelphia; Hayes E. Martin, New York, and Carl H. McCaskey, Indianapolis.

Dr. Oscar V. Batson, Philadelphia, read a paper on "Lymphatics of the Head and Neck." Discussed by Dr. Hayes E. Martin, New York.

Friday, June 13—Morning

Dr. Thomas G. Tickle, New York, read a paper on "Surgery of the Seventh Nerve." Discussed by Drs. Frank D. Lathrop, Boston; Joseph A. Sullivan, Toronto, Canada, and Thomas G. Tickle, New York.

Dr. Julius Lempert, New York, read a paper on "The Lempert Fenestra Nov-Ovalis Operation for the Restoration of Practical and Serviceable Unaided Hearing." Discussed by Drs. Marvin F. Jones, New York; Philip E. Meltzer, Boston; Joseph A. Sullivan, Toronto, Canada; Arthur L. Juers, Chicago; Maurice Saltzman, Philadelphia; Howard House, Los Angeles, and Julius Lempert, New York.

Dr. Burt R. Shurly, Detroit, gave his report as delegate to the House of Delegates, stating there had been established a new Section on Chest Diseases and that the delegate from that section would increase the number in the House of Delegates to 177. He reported that the House of Delegates passed a resolution to request that a new division of the teaching of nursing be made, in that practical nurses should be offered a two years training so that they would be called certificated nurses.

Papers were read by the following authors in a panel discussion on "What Can You Do for the Hard of Hearing?" Dr. Francis L. Lederer, Chicago, acted as moderator:

Dr. Harold Westlake, Northwestern University, Chicago; Miss Eva Thompson and Miss Miriam Pauls, U. S. Naval Hospital, Philadelphia; Professor Herbert Koepp-Baker, Chicago; Col. Edward H. Truex, Hartford, Conn., and Dr. Charles E. Kinney, Cleveland.

SECTION ON PEDIATRICS

THURSDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Gilbert J. Levy, Memphis, Tenn.

Drs. Robert A. Hingson and Frank E. Whitacre, Memphis, Tenn., Waldo B. Edwards, New York, and Clifford B. Lull, Philadelphia, presented a paper entitled "An Analysis of Newborn Mortality and Morbidity as Influenced by Continuous Caudal Analgesia with Controls in New York, Philadelphia and Memphis." Discussed by Drs. James G. Hughes, Memphis, Tenn.; Joseph B. Sheffery, Washington, D. C.; Russel Wilbur Alles, Detroit; Harold W. Adams, Somersworth, N. H., and Robert A. Hingson, Memphis, Tenn.

Drs. Jerome L. Kohn and Alfred E. Fischer, New York, presented a paper on "Management of Whooping Cough in Infants." Discussed by Drs. Ruth G. Aleman, New Orleans; L. Nellis Silverthorne, Toronto, Canada, and Alfred E. Fischer, New York.

Drs. Abraham M. Litvak and Harry Gibel, Brooklyn, presented a paper on "Cerebral Complications in Pertussis." Discussed by Drs. Philip Rosenblatt, Brooklyn; Benjamin Kramer, Brooklyn, and Abraham M. Litvak, Brooklyn.

Drs. J. Victor Greenebaum and Louis A. Lurie, Cincinnati, presented a paper on "Encephalitis as a Causative Factor in Behavior Disorders in Children." Discussed by Drs. Charles Bradley, East Providence, R. I., and Louis A. Lurie, Cincinnati.

Drs. Alton Goldbloom, Herbert H. Jasper and Helen Friedman Brickman, Montreal, Canada, presented a paper on "Electroencephalographic Studies in Acute Poliomyelitis." Discussed by Drs. M. G. Peterman, Milwaukee; David Bodian, Baltimore; John A. Toomey, Cleveland; Meyer A. Perlstein, Chicago, and Alton Goldbloom, Montreal, Canada.

Drs. Preston A. McLendon and Dorothy S. Jaeger-Lee, Washington, D. C., presented a paper on "The Role of Cow's Milk in Gastrointestinal Allergy of Children." Discussed by Drs. W. Ambrose McGee, Richmond, Va.; William F. Matthews, Montclair, N. J.; Newell Jones, Hollywood, Calif.; George Piness, Los Angeles, and Preston A. McLendon, Washington, D. C.

THURSDAY, JUNE 12—AFTERNOON

The following officers were elected: chairman, Oscar Reiss, Los Angeles; vice chairman, Stanley Gibson, Chicago; secretary, Margaret Mary Nicholson, Washington, D. C.; representative to Scientific Exhibit, Albert V. Stoesser, Minneapolis; executive committee, John Aikman, Rochester, N. Y.; Gilbert J. Levy, Memphis, Tenn.; Oscar Reiss, Los Angeles.

Dr. Hugh L. Dwyer, Kansas City, Mo., read a report in behalf of the trustees of the Jacobi Memorial Fund. On motion by Dr. Dwyer, duly seconded, it was unanimously voted to appropriate $1,500 of this fund toward the expenses of the International Congress of Pediatrics meeting to be held in New York in July.

Drs. Weston M. Kelsey and George T. Harrell Jr., Winston-Salem, N. C., presented a paper on "Management of Tick Typhus (Rocky Mountain Spotted Fever) in Childhood." Discussed by Drs. David M. Greeley, New York; Charles Armstrong, Washington, D. C., and Weston M. Kelsey, Winston-Salem, N. C.

Dr. Robert Debré, Paris, France, read the address of the invited foreign guest, entitled "Deleterious Results of Overdosage of Vitamin D During Infancy."

Dr. Cameron Haight, Ann Arbor, Mich., read a paper on "Congenital Atresia of the Esophagus with Tracheoesophageal Fistula." Discussed by Drs. Brian B. Blades, Washington, D. C.; Arthur B. McGraw, Detroit, and Cameron Haight, Ann Arbor, Mich.

Dr. Dorothy Donley-Dowd, Washington, D. C., read a paper on "Psychotherapy and the Pediatrician." Discussed by Drs. Earl H. Baxter, Columbus, Ohio; Manfred S. Guttmacher, Baltimore; Winfred Overholser, Washington, D. C., and Dorothy Donley-Dowd, Washington, D. C.

Drs. Ralph V. Platou, John Kometani and Norman Woody, New Orleans, presented a paper on "Pediatric Deaths in a Large General Hospital." Discussed by Drs. Edwin Adams Harper, Lynchburg, Va.; John M. Higgins, Sayre, Pa., and Ralph V. Platou, New Orleans.

FRIDAY, JUNE 13—AFTERNOON

Drs. Robert H. High, Earl H. Spaulding and Amedeo Bondi Jr., Philadelphia, presented a paper entitled "Clinical Application of a Laboratory Method for the Selection of Antibiotic Therapy." Discussed by Drs. Albert J. Bruecken, Pittsburgh; Horace L. Hodes, Baltimore, and Robert H. High, Philadelphia.

Dr. Hugh Leslie Moore, Dallas, Texas, presented a resolution of thanks to the pediatricians of Atlantic City, N. J., for their untiring efforts in perfecting complete arrangements for the meeting of the Section on Pediatrics.

Drs. Lewis A. Koch, Charles A. Weymuller and Elizabeth James, Brooklyn, presented a paper on "Some Practical Measures for the Reduction of Mortality from Premature Birth." Discussed by Drs. Charles C. Chapple, Philadelphia, and Lewis A. Koch, Brooklyn.

Dr. William Weston Jr., Columbia, S. C., read a paper on "Rheumatic Fever in Childhood." Discussed by Drs. Ira Gore, Washington, D. C.; Stanley Gibson, Chicago; Rachel Ash, Philadelphia; Mark P. Schultz, Bethesda, Md., and William Weston Jr., Columbia, S. C.

Drs. Harriet Davis and Joseph Stokes Jr., Philadelphia; John F. Enders, Boston, and Gertrude Henle and Elizabeth P. Maris, Philadelphia, presented a paper on "Immunologic Studies in Mumps." Discussed by Drs. Karl Habel, Bethesda, Md.; Thomas B. Turner, Baltimore, and Joseph Stokes Jr., Philadelphia.

Drs. Wallace Kernodle, Grant Taylor and Wilburt C. Davison, Durham, N. C., presented a paper on "Lye Poisoning in Children." Discussed by Drs. John Aikman, Rochester, N. Y.; Richard R. O'Toole, Pittsburgh, and Wallace Kernodle, Durham, N. C.

SECTION ON EXPERIMENTAL MEDICINE AND THERAPEUTICS

WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2:05 by the chairman, Dr. Carl A. Dragstedt, Chicago.

Dr. Roger I. Lee, Boston, read the Centennial Address, entitled "The 1947 Flowering of the American Century Plant of Therapeutics."

The following papers were read in a symposium on "The Use of Newer Drugs":

Drs. Robert A. Woodbury, George P. Child, G. Frank Jones Jr. and Richard Torpin, Augusta, Ga.: "Asymatrine Hydrobromide in the Treatment of Gastroenteric Hypermotility." Discussed by Drs. Addison W. Simpson Jr., Washington, Ga., and Benedict E. Abreu, San Francisco.

Dr. Leon O. Jacobson, Chicago: "The Use of Nitrogen Mustards in the Treatment of Disease." Discussed by Drs. Alfred Gellhorn, New York; C. C. Sturgis, Ann Arbor, Mich.; William Dameshek, Boston; Perk Lee Davis, Philadelphia, and Leon O. Jacobson, Chicago.

Dr. Isidore Snapper, New York: "Stilbamidine in the Treatment of Multiple Myeloma." Discussed by Dr. William Dameshek, Boston.

Drs. John Luetscher and Warfield T. Longcope, Baltimore: "BAL Therapy in Arsenic and Mercury Poisoning." Discussed by Drs. Marion B. Sulzberger, New York; Harry Gold, New York, and John Luetscher, Baltimore.

Dr. Francis M. Rackemann, Boston: "Use of Antihistaminic Drugs." Discussed by Drs. Franklin A. Kyser, Evanston, Ill.; Richard A. Kern, Philadelphia; Marion B. Sulzberger, New York, and Francis M. Rackemann, Boston.

THURSDAY, JUNE 12—AFTERNOON

The following officers were elected: chairman, Walter Bauer, Boston; vice chairman, Dwight L. Wilbur, San Francisco;

secretary, Carl V. Moore, St. Louis; executive committee: E. V. Allen, Rochester, Minn.; Carl A. Dragstedt, Chicago, and Walter Bauer, Boston; delegate, E. V. Allen, Rochester, Minn.; alternate, C. M. Gruber, Philadelphia; representative to Scientific Exhibit, Robert W. Wilkins, Boston.

Dr. Corneille Heymans, Ghent, Belgium, read the address of the invited foreign guest, on "Blood Pressure Homeostasis and Circulatory Failure."

Dr. Carl A. Dragstedt, Chicago, read the chairman's address, entitled "Idiosyncrasy to Drugs."

Drs. Robert L. Levy, James A. L. Mathers, Alex A. Mueller and John L. Nickerson, New York, presented a paper entitled "Effects of Smoking Cigarets on the Heart in Normal Persons and in Cardiac Patients." Discussed by Drs. Arlie R. Barnes, Rochester, Minn.; David Adlersberg, New York; H. S. Connamacher, Newark, N. J.; Herbert F. Robb, Belleville, Mich., and Robert L. Levy, New York.

Drs. Irving S. Wright and William T. Foley, New York, presented a paper on "The Role of Anticoagulants in the Treatment of Heart Disease." Discussed by Drs. E. V. Allen, Rochester, Minn.; Herrman L. Blumgart, Boston; Leo Loewe, Brooklyn; Benjamin Manchester, Washington, D. C.; E. Sterling Nichol, Miami, Fla., and Irving S. Wright, New York.

Drs. Earle M. Chapman, Reginald H. Smithwick, Dera Kinsey and William P. Chapman, Boston, presented a paper entitled "Preliminary Observation of the Effect of Thoracic Sympathectomy on Heart Rate." Discussed by Drs. Keith S. Grimson, Durham, N. C.; Corneille Heymans, Ghent, Belgium, and Earle M. Chapman, Boston.

FRIDAY, JUNE 13—MORNING

A joint meeting was held with the Section on Internal Medicine. The proceedings are reported in the minutes of that section.

SECTION ON PATHOLOGY AND PHYSIOLOGY

WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9:10 by the chairman, Dr. J. J. Moore, Chicago.

Dr. G. E. Wakerlin, Chicago, read a paper on "The Present Status of the Therapy of Experimental Renal Hypertension." Discussed by Drs. Arthur Grollman, Dallas, Texas; Corneille Heymans, Ghent, Belgium, and G. E. Wakerlin, Chicago.

Dr. R. H. Draeger, Washington, D. C., read a paper entitled "Medicine at the Crossroads." Discussed by Drs. G. E. Wakerlin, Chicago, and R. H. Draeger, Washington, D. C.

Drs. Walter L. Bierring and Richard F. Birge, Des Moines, Iowa, presented a paper on "Tumors of the Carotid Gland."

Dr. J. J. Moore, Chicago, read the chairman's address, entitled "The Practice of Pathology."

A motion of appreciation to Dr. Moore for services rendered the section was carried by rising vote.

Dr. Göran Liljestrand, Stockholm, Sweden, read the address of the invited foreign guest, entitled "Regulation of the Arterial Pulmonary Pressure."

Dr. Howard T. Karsner, Cleveland, read the Centennial Address, on "American Giants of Pathology."

Drs. H. J. Corper and Maurice L. Cohn, Denver, presented a paper on "Various Phases of the Use of Streptomycin in Tuberculosis." Discussed by Dr. Emil Bogen, Olive View, Calif.

THURSDAY, JUNE 12—MORNING

The following officers were elected: chairman, Alvin G. Foord, Pasadena, Calif.; vice chairman, G. E. Wakerlin, Chicago; secretary, Edwin F. Hirsch, Chicago; executive committee, Virgil H. Moon, Philadelphia; J. J. Moore, Chicago, and Alvin G. Foord, Pasadena, Calif.; delegate, Swen L. Larson, West Elmira, N. Y.; alternate, H. J. Corper, Denver; representative to Scientific Exhibit, F. W. Konzelmann, Absecon, N. J.

The following papers were presented as a symposium on "Virus Diseases":

Dr. E. W. Schultz, Stanford University, Calif.: "The Present Status of Viruses and Virus Diseases."

Dr. Joseph E. Smadel, Washington, D. C.: "The Physician and the Virus Diagnostic Laboratory."

Dr. Ralph W. G. Wyckoff, Washington, D. C.: "The Electron Microscopy of Viruses."

Dr. John H. Dingle, Cleveland: "Common Virus Infections of the Respiratory Tract."

Drs. Thomas Francis Jr. and Gordon C. Brown, Ann Arbor, Mich.: "Search for Extrahuman Sources of Poliomyelitis Virus."

Dr. John G. Kidd, New York: "Viruses and Virus-like Agents as Causes of Cancer."

These six papers were discussed by Drs. R. R. Spencer, Washington, D. C.; James P. Leake, Washington, D. C.; E. W. Schultz, Stanford University, Calif., and Joseph E. Smadel, Washington, D. C.

FRIDAY, JUNE 13—MORNING

The following papers were read in a symposium on "The Present Status of Cancer Research":

Dr. R. R. Spencer, Washington, D. C.: "The Meaning of Cancer Research."

Dr. Henry S. N. Greene, New Haven, Conn.: "The Biologic Assessment of Tumor Potentialities." Discussed by Drs. Stanley P. Reimann, Philadelphia; E. V. Cowdry, St. Louis; R. R. Spencer, Washington, D. C.; Alvin G. Foord, Pasadena, Calif.; Robert S. Stone, San Francisco, and Henry S. N. Greene, New Haven, Conn.

Dr. E. V. Cowdry, St. Louis: "Epidermal Carcinogenesis." Discussed by Drs. R. R. Spencer, Washington, D. C.; M. J. Shear, Washington, D. C., and E. V. Cowdry, St. Louis.

Dr. M. J. Shear, Washington, D. C.: "Some Current Trends in Cancer Chemotherapy." Discussed by Drs. Shields Warren, Boston; Stanley P. Reimann, Philadelphia; E. V. Cowdry, St. Louis; Robert S. Stone, San Francisco, and M. J. Shear, Washington, D. C.

Dr. Shields Warren, Boston: "Radioactive Isotopes in the Diagnosis and Treatment of Malignant Disease." Discussed by Drs. Robert S. Stone, San Francisco; M. J. Shear, Washington, D. C., and Shields Warren, Boston.

SECTION ON NERVOUS AND MENTAL DISEASES

WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2:10 by the chairman, Dr. Roland P. Mackay, Chicago.

Dr. Wallace B. Hamby, Buffalo, read a paper on "Spontaneous Subarachnoid Hemorrhage of Aneurysmal Origin; Factors Influencing Prognosis." Discussed by Drs. J. C. Richardson, Toronto, Canada; I. S. Wechsler, New York; Rudolph Jaeger, Philadelphia, and Wallace B. Hamby, Buffalo.

Dr. Thierry Alajouanine, Paris, France, read the address of the invited foreign guest, on "The History of Neurology and Its Present Day Applications."

Dr. Pearce Bailey, Washington, D. C., read a paper on "The Program for the Activation of Neurology Under the Veterans Administration." Discussed by Dr. J. M. Nielsen, Los Angeles.

Dr. Joseph T. Roberts, Washington, D. C., read a paper on "Ischemia of Peripheral Nerves: Experimental and Clinical Studies on the Role of the Vasa Nervorum." Discussed by Drs. Louis J. Karnosh, Cleveland; Joseph L. Fetterman, Cleveland; Samuel B. Hadden, Philadelphia, and Joseph T. Roberts, Washington, D. C.

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Dr. Walter G. Haynes, Birmingham, Ala., read a paper on the "Surgical Treatment of Intractable Unilateral Cephalalgia." Discussed by Drs. Paul Bucy, Chicago; Roland P. Mackay, Chicago, and Walter G. Haynes, Birmingham, Ala.

Drs. Michael Scott and Henry T. Wycis, Philadelphia, presented a paper entitled "A Survey of the Value of Neurosurgical Treatment for the Relief of Intractable Pain." Discussed by Drs. A. Earl Walker, Chicago; James L. Poppen, Boston; Ernest A. Spiegel, Philadelphia; James W. Watts, Washington, D. C., and Michael Scott, Philadelphia.

THURSDAY, JUNE 12—AFTERNOON

Dr. Walter Freeman, Washington, D. C., submitted a report on the American Board of Psychiatry and Neurology.

Dr. Paul C. Bucy, Chicago, submitted a report on the American Board of Neurological Surgery.

The chairman, Dr. Roland P. Mackay, Chicago, submitted a report on the progress of the International Congress on Mental Health. On motion by Dr. Paul C. Bucy, Chicago, seconded by Dr. Walter Freeman, Washington, D. C., it was decided that two participants, with alternates, be appointed to attend the London meeting of the congress.

The following officers were elected: chairman, A. R. Vonderahe, Cincinnati; vice chairman, William A. Smith, Atlanta, Ga.; secretary, Frederick P. Moersch, Rochester, Minn.; representative to Scientific Exhibit, A. B. Baker, Minneapolis; delegate, Hans Heinrich F. Reese, Madison, Wis.; alternate, Robert F. Gayle Jr., Richmond, Va.; representative to the American Board of Psychiatry and Neurology, Percival Bailey, Chicago.

Dr. Stanley Cobb, Boston, read the Centennial Address, entitled "One Hundred Years of Progress in Neurology, Neurologic Surgery and Psychiatry."

Dr. R. Glen Spurling, Louisville, Ky., read a paper on "Neurosurgery (and the Neurosurgeon) in World War II." Discussed by Dr. M. Barnes Woodhall, Durham, N. C.

Dr. Francis C. Grant, Philadelphia, read a paper entitled "Surgical Experience with Pituitary Tumors." Discussed by Drs. James L. Poppen, Boston; Edgar A. Kahn, Ann Arbor, Mich.; Max Peet, Ann Arbor, Mich.; Oscar Hirsch, Boston, and Francis C. Grant, Philadelphia.

FRIDAY, JUNE 13—AFTERNOON

Dr. Roland P. Mackay, Chicago, read the chairman's address, entitled "The Neurologist Looks at Discipline."

Dr. Nolan D. C. Lewis, New York, read a paper entitled "Research Leads in Contemporary Neurochemistry." Discussed by Drs. Harold E. Himwich, Falston, Md., and J. M. Nielsen, Los Angeles.

Drs. Karl M. Bowman and Jurgen Ruesch, San Francisco, presented a paper on "Personality and Illness." Discussed by Drs. Samuel B. English, Glen Gardner, N. J., and Karl M. Bowman, San Francisco.

Dr. Benjamin McLane Spock, Rochester, Minn., read a paper on "Common Emotional Disturbances in the First Two Years of Life." Discussed by Drs. Karl M. Bowman, San Francisco; Frederick H. Allen, Philadelphia, and Benjamin McLane Spock, Rochester, Minn.

Drs. George N. Thompson and J. M. Nielsen, Los Angeles, presented a paper on "The Organic Paranoid Syndrome." Discussed by Dr. S. Bernard Wortis, New York.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2:05 by the chairman, Dr. Nelson Paul Anderson, Los Angeles.

The chairman announced the appointment of Dr. George C. Andrews, New York, to the executive committee in the absence of Dr. Clark W. Finnerud, Chicago.

Dr. Francis W. Lynch, St. Paul, read the report on the Scientific Exhibit. Dr. Lynch suggested that the section thank Dr. Paul E. Bechet, Elizabeth, N. J., for the extensive effort put into the preparation of his exhibit. On motion by Dr. Clyde L. Cummer, Cleveland, seconded by Dr. John G. Downing, Boston, it was voted that Dr. Lynch's report be accepted.

Dr. C. Guy Lane, Boston, read the report of the Committee on Industrial Dermatoses, in the absence of Dr. H. F. Foerster, as follows:

Three meetings of this committee have been held: (1) in Cleveland at the time of the meeting of the American Academy of Dermatology and Syphilology in December 1946; (2) at Murray Bay, Quebec, Canada, June 4, 1947, a joint meeting of the committee with the Advisory Dermatologic Committee of the U. S. Public Health Service, and (3) at Atlantic City, June 12, a joint meeting of this committee with the Advisory Dermatologic Committee of the U. S. Public Health Service.

An informal meeting was also held with representatives of the Council of Industrial Health on June 11.

There was considerable discussion in regard to coordination of the work of the Council of Industrial Health and of the office of dermatology of the U. S. Public Health Service, and considerable progress was made with a view to closer cooperation.

There was also considerable discussion on regional representations of the committee; teaching of occupational dermatoses in medical schools; a formulary for use in the management of occupational skin diseases, and the possible publication at intervals by the Council on Industrial Health of a bulletin of material submitted by the committee and of lists of cutaneous hazards in industry.

Respectfully submitted,

H. F. FOERSTER, Secretary.

On motion by Dr. Fred D. Weidman, Philadelphia, seconded by Dr. Clyde L. Cummer, Cleveland, it was voted that the report of the Committee on Industrial Dermatoses be accepted.

Dr. Earl Osborne, Buffalo, announced that a meeting of the American Academy of Dermatology and Syphilology was to be held in Chicago in December 1947.

Dr. George M. Lewis read the report of the American Board of Dermatology and Syphilology, which was accepted.

Dr. Paul A. O'Leary, Rochester, Minn., editor of the *Archives of Dermatology and Syphilology*, then gave an oral report on his activities as editor and asked for an expression of opinion as to whether the tenth International Congress should be held in 1950 in the United States and whether members were willing to contribute funds for such a congress.

It was voted, on motion by Dr. Harold N. Cole, Cleveland, seconded by Dr. Clyde L. Cummer, Cleveland, that the secretary be authorized to send a telegram to the oldest member in the United States, Dr. William T. Corlett of Cleveland.

Dr. Nelson Paul Anderson, Los Angeles, read the chairman's address, on "Cysts, Sinuses and Fistulas of Dermatologic Interest."

Dr. Oliver S. Ormsby, Chicago, read the Centennial Address, entitled "One Hundred Years' Progress in Dermatology."

R. M. B. MacKenna, London, England, read the address of the invited foreign guest, entitled "Dermatology: The International Outlook."

Dr. Henry E. Michelson, Minneapolis, read a paper on "Sarcoidosis: A Review and an Appraisal." Discussed by Drs. Fred D. Weidman, Philadelphia; Arthur C. Curtis, Ann Arbor, Mich., and Henry E. Michelson, Minneapolis.

Drs. Earl D. Osborne, James W. Jordan, Frank C. Hoak Jr. and Francis J. Pschierer, Buffalo, presented a paper on "Nitrogen Mustard Therapy in Cutaneous Blastomatous Disease." Discussed by Drs. Charles Spurr, Chicago; Leon Goldman, Cincinnati; Frank J. Eichenlaub, Washington, D. C.; Richard S. Weiss, St. Louis, and Earl D. Osborne, Buffalo.

Drs. David I. Macht and Marcus Ostro, Baltimore, presented a paper on "Pemphigus: Experimental and Clinical Studies on the Etiology, Diagnosis and Therapy."

Dr. Arthur W. Grace, Brooklyn, read a paper on "The Causative Agent of Pemphigus Vulgaris."

These two papers were discussed by Drs. Richard S. Weiss, St. Louis; Walter F. Lever, Boston; John G. Downing, Boston; Maurice Oppenheim, Chicago; Ashton L. Welsh, Cincinnati; David I. Macht, Baltimore, and Arthur W. Grace, Brooklyn.

THURSDAY, JUNE 12—AFTERNOON

Dr. Francis W. Lynch, St. Paul, announced the award of the silver medal to Drs. G. H. Faget, P. T. Erickson and Sister Hilary Ross, U. S. Marine Hospital, Carville, La., for the exhibit on Chemotherapy of Leprosy.

He also announced that special commendation was given to the historical exhibits of Paul E. Bechet, Elizabeth, N. J., on "Synopsis of the More Important Achievements of American Dermatology."

The following officers were elected: chairman, Henry E. Michelson, Minneapolis; vice chairman, Carroll Wright, Philadelphia; secretary, Clinton W. Lane, St. Louis; representative to American Board of Dermatology and Syphilology, Paul A. O'Leary, Rochester, Minn.; delegate, C. F. Lehmann, San Antonio, Texas; alternate, Everett Fox, Dallas, Texas.

On motion by Dr. Clyde L. Cummer, Cleveland, duly seconded, it was voted that Dr. Bechet be given an honorarium to help defray the expense of his exhibit, to be taken from the money in Dr. Lynch's Scientific Exhibit fund, the amount to be left to Dr. Lynch's discretion.

Drs. H. S. Kupperman, R. B. Greenblatt and R. B. Dienst, Augusta, Ga., presented a paper on "Streptomycin in the Therapy of Granuloma Inguinale." Discussed by Drs. Robert R. Kierland, Rochester, Minn.; Donald M. Pillsbury, Philadelphia, Pa.; Harold L. Hirsh, Washington, D. C.; Harry M. Robinson, Baltimore, and R. B. Greenblatt, Augusta, Ga.

Dr. Paul A. O'Leary, Rochester, Minn., read the Centennial Address, entitled "A Brief History of Syphilis During the Past Hundred Years."

Drs. James K. Howles, New Orleans, and Elmer R. Gross, Philadelphia, presented a paper on "Nonspecific Treatment of Dermatoses and Adjunctive Therapy of Syphilis with Oral Sodium Bismuth Triglycollamate." Discussed by Drs. Dudley C. Smith, Charlottesville, Va.; Arthur W. Neilson, St. Louis; Harold N. Cole, Cleveland; Carroll S. Wright, Philadelphia; Charles R. Rein, New York, and E. R. Gross, Philadelphia.

Dr. Eugene A. Hand, Saginaw, Mich., read a paper on "The Importance of Circumcision in the Prevention of Venereal Disease and Certain Forms of Cancer." Discussed by Drs. John E. Rauschkolb, Cleveland; Francis A. Ellis, Baltimore; Harry M. Robinson, Baltimore; Isidore Snapper, New York; S. J. Zakon, Chicago; F. P. McCarthy, Boston, and Eugene A. Hand, Saginaw, Mich.

Drs. G. H. Faget and Paul T. Erickson, Carville, La., presented a paper on "The Chemotherapy of Leprosy." Discussed by Drs. Harold M. Johnson, Honolulu, Hawaii; M. T. Von Studdiford, New Orleans, and Paul T. Erickson, Carville, La.

Drs. Samuel M. Peck, Sheppard Siegal, Arthur W. Glick and Abner Kurtin, New York, presented a paper on "Clinical Problems in Penicillin Sensitivity." Discussed by Drs. Harold N. Cole, Cleveland; E. Myles Standish, Hartford, Conn.; Harry M. Robinson, Baltimore; Leon Goldman, Cincinnati; E. E. Mandel, Chicago; Marion B. Sulzberger, New York, and Sheppard Siegal, New York.

FRIDAY, JUNE 13—AFTERNOON

Drs. H. J. Templeton, C. J. Lunsford and H. V. Allington, Oakland, Calif., presented a paper on "Autosensitization Dermatitis." Discussed by Drs. C. F. Lehmann, San Antonio, Texas; Everett R. Seale, Houston, Texas, and R. M. B. MacKenna, London, England.

Drs. Theodore Cornbleet and Meyer Brown, Chicago, presented a paper on "Dermatologic Manifestations as Presenting Symptoms of Psychiatric Disorders." Discussed by Drs. Marion B. Sulzberger, New York; Francis W. Lynch, St. Paul, and Adrian Scolten, Portland, Maine.

Drs. Frank C. Combes and Howard T. Behrman, New York, presented a paper on "The Technic and Problems of Roentgen Ray Epilation." Discussed by Drs. Anthony C. Cipollaro, New York; Francis A. Ellis, Baltimore; I. M. Felsher, Chicago; James Louis Pipkin, San Antonio, Texas; George M. Lewis, New York; C. Guy Lane, Boston; J. Walter Wilson, Los Angeles, and Howard T. Behrman, New York.

Drs. June C. Shafer, Carl B. Braestrup and Jerome K. Fisher, New York, presented a paper on "The Relation of the Exit Dose and Other Dosage Factors to Roentgen Injuries." Discussed by Drs. C. Guy Lane, Boston; Onis G. Hazel, Oklahoma City; J. L. Schamberg, Philadelphia; Stephen Epstein, Marshfield, Wis.; Anthony C. Cipollaro, New York, and June C. Shafer, New York.

Dr. G. M. Crawford, Boston, read a paper on "Injection Therapy for Angiomas." Discussed by Dr. H. Ford Anderson, Washington, D. C.

Drs. Roy L. Kile and Ashton L. Welsh, Cincinnati, presented a paper on "The Use of Liquid Oxygen in Dermatology." Discussed by Drs. Allen W. Pepple, Richmond, Va.; Richard S. Weiss, St. Louis; H. V. Allington, Oakland, Calif., and Roy L. Kile, Cincinnati.

The retiring chairman thanked all those who gave and discussed papers, those who spent long hours in preparing scientific exhibits; the Atlantic City hosts; the Local Committee on Dermatology and Syphilology; the management of the Marlborough-Blenheim Hotel and its personnel.

The newly elected officers were then installed. On motion by Dr. Clyde L. Cummer, Cleveland, seconded by Dr. C. Guy Lane, Boston, and unanimously approved, the section extended its thanks and great appreciation to the retiring officers, particularly Dr. Anderson, who had served the section for four years.

SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9:20 by the chairman, Dr. Clarence O. Sappington, Chicago.

Dr. Clarence O. Sappington, Chicago, read the chairman's address, on "The Status of Industrial Medicine."

Dr. Clarence D. Selby, Detroit, read the Centennial Address, entitled "Influence of the Section on the Development of Industrial Medicine."

The following papers were read in a symposium on "How Can Qualified Medical Testimony (Scientific Proof) Be Attained in Workmen's Compensation Controversy?" Mr. J. W. Holloway Jr., Chicago, acted as moderator: Drs. D. J. Galbraith, Toronto, Canada; George N. Edson, Jackson Heights, N. Y.; Carey P. McCord, Detroit; A. G. Kammer, New York; W. G. Workman, Tracy, Minn., and Mr. Theodore C. Waters, Baltimore. Discussed by Mr. Theodore H. Goding, New York; Dr. Henry H. Kessler, Newark, N. J.; Mr. W. H. Nickels Jr., Richmond, Va., and Dr. Frederick W. Slobe, Chicago.

THURSDAY, JUNE 12—MORNING

The following officers were elected: chairman, R. H. Riley, Baltimore; vice chairman, Oscar A. Sander, Milwaukee; secretary, Rutherford T. Johnstone, Los Angeles; delegate, Earl D. Osborne, Buffalo; alternate, Leverett D. Bristol, New York; executive committee: E. L. Stebbins, New York; Clarence O. Sappington, Chicago, and R. H. Riley, Baltimore.

Dr. Louis I. Dublin, New York, read a paper on "The Longevity and Mortality of American Physicians." Discussed by Drs. Haven Emerson, New York, and Louis I. Dublin, New York.

Dr. Sven Forssman, Tomtedoda, Sweden, read the address of the invited foreign guest, entitled "Comparative Practices in Industrial Medicine in Sweden and in the United States."

The following papers were read in a symposium on "The Need for Industrial Health Education, How, When and to What Extent":

Dr. Robert A. Kehoe, Cincinnati, acting as moderator: "Medical Education in Relation to Industrial Health."

Dr. W. S. McEllroy, Pittsburgh: "Pittsburgh as the Logical Center to Establish a Graduate Program of Training in Industrial Health."

Dr. J. M. Carlisle, Rahway, N. J.

Dr. Leonard J. Goldwater, New York: "Practical Points in the Teaching of Industrial Medicine."

Dr. Henry F. Vaughan, Ann Arbor, Mich.: "The Need for Industrial Health Education."

Dr. James H. Sterner, Rochester, N. Y.: "The Education of the Industrial Hygiene Physician."

Mr. W. C. L. Hemeon, Pittsburgh: "Contribution to a Symposium on the Need for Industrial Health Education."

These papers were discussed by Drs. Raymond Hussey, Detroit; Russell L. Haden, Cleveland; T. Lyle Hazlett, Pittsburgh; Carl M. Peterson, Chicago; L. W. Fetzer, Dallas, Texas, and W. S. McEllroy, Pittsburgh.

FRIDAY, JUNE 13—MORNING

Dr. Emil Seletz, Los Angeles, read a paper on "New Incisions and Revised Technics in Peripheral Nerve Surgery." Discussed by Dr. Michael Scott, Philadelphia.

Dr. Victor Ross, New York, read a paper entitled "Preliminary Report on Schick Test Toxin Not Requiring Control in Adults." Discussed by Dr. James P. Leake, Washington, D. C.

Dr. Joseph A. Bell, Bethesda, Md., read a paper on "Diphtheria Immunization with an Alum Precipitated Mixture of Pertussis Vaccine and Diphtheria Toxoid." Discussed by Drs. Victor Ross, New York; Harold B. Wood, Harrisburg, Pa.; Maxwell Stillerman, Great Neck, N. Y.; James P. Leake, Washington, D. C., and Joseph A. Bell, Bethesda, Md.

Drs. Elmer H. Loughlin and Norman R. Stoll, Brooklyn, presented a paper on "Hookworm Infections in American Servicemen, with Reference to the Establishment of Ancylostoma Duodenale in the Southern United States." Discussed by Drs. Harold B. Wood, Harrisburg, Pa., and Norman R. Stoll, Brooklyn.

Drs. Loren D. Moore, Geoffrey Edsall and Vlado A. Getting, Boston, presented a paper on "The Massachusetts Blood and Blood Derivatives Program." Discussed by Drs. I. Jay Brightman, Albany, N. Y.; Loren D. Moore, Boston; Claude P. Brown, Philadelphia, and J. W. Mountin, Washington, D. C.

Drs. L. T. Fairhall and H. T. Castberg, Bethesda, Md., presented a paper on "Observations on the Industrial Hygiene Aspects of the Cemented Tungsten Carbide Industry." Discussed by Drs. H. T. Castberg, Bethesda, Md.; Clarence O. Sappington, Chicago; L. T. Fairhall, Bethesda, Md., and Claude P. Brown, Philadelphia.

SECTION ON UROLOGY

WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9:05 by the chairman, Dr. Grayson Carroll, St. Louis.

Dr. William P. Herbst, Washington, D. C., read a paper on "The Problem of the Posteriorly Located Renal Pelvis Associated with Ptosis."

Dr. Roy B. Henline, New York, read a paper on "Ureteropelvic Obstructions: Symptoms and Treatment."

These two papers were discussed by Drs. John M. Pace, Dallas, Texas; Clark M. Johnson, San Francisco; James Sargent, Milwaukee; David M. Davis, Philadelphia; T. D. Moore, Memphis, Tenn.; Abraham Hyman, New York; William P. Herbst, Washington, D. C., and Roy B. Henline, New York.

Dr. William F. Braasch, Rochester, Minn., read the Centennial Address, entitled "One Hundred Years of Progress in Urology."

Dr. Lloyd G. Lewis, Washington, D. C., read a paper on "Radical Orchiectomy in the Treatment of Testis Tumors."

Drs. Hans R. Sauer, Ernest M. Watson and Eugene M. Burke, Buffalo, presented a paper on "Tumors of the Testicle."

These two papers were discussed by Drs. Harold P. McDonald, Atlanta, Ga.; John Ormond, Detroit; Lloyd G. Lewis, Washington, D. C., and Ernest M. Watson, Buffalo.

Dr. Lowrain E. McCrea, Philadelphia, read a paper on "Primary Carcinoma of the Seminal Vesicles: Differentiation from Extrarectal and Rectal Carcinoma."

Dr. W. J. Kolff, Kampen, Holland, read a paper entitled "The Artificial Kidney." Discussed by Drs. Abraham Hyman, New York, and W. J. Kolff, Kampen, Holland.

The chairman announced the death of Dr. Ernest Granville Crabtree, Boston. On motion by Dr. Gershom Thompson, Rochester, Minn., seconded by Dr. Harold P. McDonald, Atlanta, Ga., it was voted that the secretary record in the minutes an expression of sorrow at Dr. Crabtree's death and that an appropriate letter be sent to Mrs. Crabtree. The members then stood for a few moments of silent tribute.

THURSDAY, JUNE 12—MORNING

Dr. Clarence G. Bandler, New York, presented the report from the American Board on Urology, which was accepted.

The following officers were elected: chairman, Reed M. Nesbit, Ann Arbor, Mich.; vice chairman, Earl E. Ewert, Boston; secretary, Edward N. Cook, Rochester, Minn.; representative to the Scientific Exhibit, John H. Morrissey, New York; delegate, Roy B. Henline, New York; alternate, Vincent J. O'Conor, Chicago.

The chairman announced the award of the gold medal to Drs. George F. Cahill and Meyer M. Melicow, New York, for their exhibit on Tumors of the Adrenal Gland.

Dr. Edwin Davis, Omaha, read a paper on "Disappearance of Carcinomatous Ulceration of the Bladder Following Bilateral Ureterosigmoidostomy." Discussed by Drs. William P. Herbst, Washington, D. C., and Armando Trabucco, Buenos Aires, Argentina.

Dr. Benjamin S. Barringer, New York, read a paper entitled "Twenty-Five Years of Radon Implantation for Bladder Cancer."

Dr. Charles C. Higgins, Cleveland, read a paper on "Total Cystectomy for Carcinoma of the Bladder."

These two papers were discussed by Drs. Thomas D. Moore, Memphis, Tenn.; Leo Edelman, New York; Benjamin S. Barringer, New York, and Charles C. Higgins, Cleveland.

Dr. Grayson Carroll, St. Louis, read the chairman's address, entitled "A Study of Pseudomonas Aeruginosa and Related Bacillary Infections of the Urinary Tract."

Dr. Frank S. Patch, Montreal, Canada, read the address of the invited foreign guest, on "Epithelial Metaplasia of the Urinary Tract."

Dr. M. M. Melicow, New York, read a paper on "The Pathology of Adrenal Tumors."

Dr. George F. Cahill, New York, read a paper on "Phenochromocytomas."

These two papers were discussed by Drs. Earl E. Ewert, Boston; Seymour F. Wilhelm, New York; M. M. Melicow, New York, and George F. Cahill, New York.

Dr. A. J. Scholl, Los Angeles, read a paper on "Peripelvic Cysts of the Kidney, with Report on Two Cases." Discussed by Dr. Basil A. Hayes, Oklahoma City, and A. J. Scholl, Los Angeles.

FRIDAY, JUNE 13—MORNING

Drs. Hamilton W. McKay, H. Haynes Baird and Kenneth Lynch Jr., Charlotte, N. C., presented a paper on "An Analysis of Two Hundred Cases of Urinary Calculi, with Particular Reference to Methods of Management of Ureteral Stones."

Col. James C. Kimbrough and Major John N. Furst, Washington, D. C., presented a paper on "Management of Recurrent Formation of Renal Calculi."

These two papers were discussed by Drs. A. E. Goldstein, Baltimore; Frank C. Hamm, Brooklyn; Henry Sangree, Phila-

delphia; George Livermore, Memphis, Tenn.; Hamilton W. McKay, Charlotte, N. C., and J. C. Kimbrough, Washington, D. C.

Mr. Terrence J. Millin, London, England, read a paper on "Retropubic Operation for Stress Incontinence in Women."

Dr. Armando Trabucco, Buenos Aires, Argentina, read a paper on "The Bladder in the Genital Prolapse."

These two papers were discussed by Drs. Virgil S. Counseller, Rochester, Minn.; J. C. Kimbrough, Washington, D. C.; Terrence J. Millin, London, England, and Armando Trabucco, Buenos Aires, Argentina.

Drs. Herman L. Kretschmer and Stuyvesant Butler, Chicago, presented a paper on "Prostatic Surgery and Heart Disease." Discussed by Drs. Harold C. Habein, Rochester, Minn.; Thomas A. Morrissey, New York; A. E. Goldstein, Baltimore, and Herman L. Kretschmer, Chicago.

Dr. W. W. Scott, Baltimore, read a paper entitled "Implications of Hyaluronidase in Fertility."

Drs. M. Leopold Brodny and Samuel A. Robins, Boston, presented a paper on "Urethrocystography in the Male Child."

These two papers were discussed by Drs. Monroe E. Greenberger, New York; A. E. Goldstein, Baltimore; Henry Sangree, Philadelphia; W. W. Scott, Baltimore, and M. Leopold Brodny, Boston.

SECTION ON ORTHOPEDIC SURGERY

Wednesday, June 11—Morning

The meeting was called to order at 9:10 by the chairman, Dr. Francis M. McKeever, Los Angeles.

The following papers were read in a panel discussion on "Fractures of the Upper End of the Femur," Dr. Philip D. Wilson, New York, acting as moderator:

Dr. George W. Van Gorder, Boston: "Treatment of Acute Fractures of the Neck of the Femur." Discussed by Dr. John Royal Moore, Philadelphia.

Drs. Mather Cleveland, D. M. Bosworth and F. R. Thompson, New York: "Management of Intertrochanteric Fractures of the Femur." Discussed by Dr. Robert H. Kennedy, New York.

Dr. Richard H. Freyberg, New York: "Medical Management of the Patient with a Fractured Hip."

Dr. Carl E. Badgley, Ann Arbor, Mich.: "Cause, Development and Treatment of Aseptic Necrosis of the Femoral Head Following Fracture of the Hip." Discussed by Dr. Alexander P. Aitken, Boston.

Dr. Harold B. Boyd, Memphis, Tenn.: "Results of Treatment of Fractures of the Upper End of the Femur."

Dr. J. A. Dickson, Cleveland: "Treatment of Ununited Fractures of the Femur."

These six papers were discussed by Drs. Warren White, New York; José Valls, Buenos Aires, Argentina; George W. Van Gorder, Boston; Mather Cleveland, New York; Richard H. Freyberg, New York; Carl E. Badgley, Ann Arbor, Mich.; Harold B. Boyd, Memphis, Tenn., and J. A. Dickson, Cleveland.

Thursday, June 12—Morning

Drs. Paul R. Lipscomb, Melvin S. Henderson and Ralph E. DeForest, Rochester, Minn., presented a paper on "Internal Derangements of the Knee." Discussed by Drs. D. M. Bosworth, New York, and E. F. Cave, Boston.

Dr. Francis M. McKeever, Los Angeles, read the chairman's address, entitled "Fracture of the Olecranon Process of the Ulna."

Drs. Armin Klein, Robert J. Joplin and John A. Reidy, Boston, presented a paper on "The Treatment of Slipped Capital Femoral Epiphyses." Discussed by Drs. H. R. McCarroll, St. Louis; Tom Outland, Elizabethtown, Pa.; Frank R. Ober, Boston; William Boyd, Memphis, Tenn.; Carl Badgley, Ann Arbor, Mich.; Joseph S. Barr, Boston; Hiram Winnett Orr, Lincoln, Neb., and John A. Reidy, Boston.

Dr. Edwin W. Ryerson, Chicago, read the Centennial Address, on "One Hundred Years of Orthopedic Surgery."

Friday, June 13—Morning

The following officers were elected: chairman, J. Warren White, Greenville, S. C.; vice chairman, D. M. Bosworth, New York; secretary, Joseph S. Barr, Boston; delegate, Archer O'Reilly, St. Louis; representative to Scientific Exhibit, Tom Outland, Elizabethtown, Pa.

Dr. Carlo S. Scuderi, Chicago, read a paper on "Massive Bone Grafts for the Restoration of Defects in Long Bone." Discussed by Drs. T. C. Thompson, New York; Jesse T. Nicholson, Philadelphia, and Carlos S. Scuderi, Chicago.

Dr. G. Edmund Haggart, Boston, read a paper on "The Value of Conservative Management in Cervicobrachial Pain." Discussed by Drs. I. W. Nachlas, Baltimore; James McAteer, New York, and G. Edmund Haggart, Boston.

Dr. José Valls, Buenos Aires, Argentina, read the address of the invited foreign guest, entitled "Aspiration Biopsy in the Diagnosis of Lesions of the Vertebral Bodies."

Dr. Leonard F. Bush, Danville, Pa., and C. Zent Garber, New York, presented a paper on "The Bone Bank." Discussed by Drs. John R. Cobb, New York; Frank E. Stinchfield, New York; Dallas B. Phemister, Chicago, and Leonard F. Bush, Danville, Pa.

Dr. Herbert John Seddon, Oxford, England, read a paper on "Nerve Lesions Complicating Certain Closed Bone Injuries."

Dr. Paul C. Colonna, Philadelphia, read a paper on "Experimental Production of Aseptic Necrosis." Discussed by Drs. Dallas B. Phemister, Chicago; George O. Eaton, Baltimore, and Paul C. Colonna, Philadelphia.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

Wednesday, June 11—Afternoon

The meeting was called to order at 2:05 by the chairman, Dr. Martin S. Kleckner, Allentown, Pa.

Dr. H. J. Moersch, Rochester, Minn., read a paper on "Results of Treatment of Esophageal Varices by Injection of Sclerosing Solution." Discussed by Dr. Cecil O. Patterson, Dallas, Texas.

Dr. Bruce C. Lockwood, Detroit, read a paper on "Congenital Gallbladder Anomalies."

The following papers were read in a symposium on "Liver Disease":

Diagnostic Aspects:

Professor John McMichael, London, England, invited foreign guest: "A Review of Some Clinical and Biochemical Problems of Liver Disease as Revealed by Systematic Biopsy Studies."

Drs. William F. Lipp, Alfred R. Lenzner and A. H. Aaron, Buffalo: "The Accuracy of Diagnosis of Jaundice."

Drs. Hans Popper and Murray Franklin, Chicago: "Differential Diagnosis of Hepatitis by Histologic and Functional Laboratory Methods."

Therapeutic Aspects:

Dr. Frederick Steigmann, Chicago: "The Efficacy of Lipotrophic Substances in the Treatment of Liver Cirrhosis."

These four papers were discussed by Drs. Cecil J. Watson, Minneapolis; Theodore Gillman, Johannesburg, South Africa; David Adlersberg, New York, and Professor John McMichael, London, England.

Dr. J. Arnold Bargen, Rochester, Minn., read the Centennial Address, entitled "The History of Progress in Our Knowledge of the Digestive Tract During the Last Century."

The following papers were read in a symposium on the "Pancreas":

Drs. Moses Behrend and Albert Behrend, Philadelphia: "Chronic Pancreatitis Causing Complete and Incomplete

Obstruction of the Common Duct: Report of Illustrative Cases."

Dr. Grayson F. Dashiell, Chicago: "Diagnostic Criteria of Carcinoma of the Pancreas."

Drs. Eric E. Wollaeger, Manfred W. Comfort, Arnold E. Osterberg and O. Theron Clagett, Rochester, Minn.: "Functional Efficiency of the Gastrointestinal Tract Following Resection of the Head of the Pancreas (Whipple Operation): Effect of (1) Anastomosing Remaining Pancreas to the Jejunum; (2) Administration of Pancreatin; (3) Variations of the Fat and Nitrogen Content of the Diet."

These three papers were discussed by Drs. Allen O. Whipple, New York; Robert Elman, St. Louis; J. Edward Berk, Philadelphia; Rudolf Schindler, Los Angeles, and Moses Behrend, Philadelphia.

THURSDAY, JUNE 12—AFTERNOON

The following officers were elected: chairman, Dr. Sara M. Jordan, Boston; vice chairman, Dr. William H. Daniel, Los Angeles; secretary, Dr. Grant H. Laing, Chicago; delegate, Dr. Louis A. Buie, Rochester, Minn.; alternate, Dr. Walter A. Fansler, Minneapolis; representative to American Board of Proctology, Dr. Robert A. Scarborough, San Francisco (for four consecutive one year terms); representative to Scientific Exhibit, Dr. Donovan C. Browne, New Orleans; executive committee, Dr. J. A. Bargen, Rochester, Minn.; Dr. Martin S. Kleckner, Allentown, Pa., and Dr. Sara M. Jordan, Boston.

The following resolution was adopted:

Resolved, That the Committee on Scientific Exhibit of the American Medical Association be requested to authorize the appointment of a proctologist to assist the gastroenterologist as co-representative to the Scientific Exhibit.

Dr. Martin S. Kleckner, Allentown, Pa., read the chairman's address, entitled "Proctologic Surgery of the Large Bowel."

Dr. Saul Schapiro, Brooklyn, read a paper on "The Proctologic Examination of Infants and Children."

Dr. Tom E. Smith, Dallas, Texas, read a paper on "Anterior Pilonidal Cyst."

Drs. Harry E. Bacon and Robert J. Rowe, Philadelphia, presented a paper on "The Preparation and After-Care of the Patient Undergoing Surgery of the Lower Bowel."

These three papers were discussed by Drs. Frank H. Lahey, Boston; Moses Paulson, Baltimore; Edgar J. Poth, Galveston, Texas; Saul Schapiro, Brooklyn, and Robert J. Rowe, Philadelphia.

The following papers were read in a symposium on "Ulcerative Colitis":

Clinical Aspects:

Dr. William Z. Fradkin, Brooklyn: "The Etiologic Diagnosis of Ulcerative Colitis."

Dr. Joseph B. Kirsner, Chicago: "Certain Clinical Aspects of Ulcerative Colitis."

Treatment:

Dr. Moses Paulson, Baltimore: "Total Parenteral Alimentation and Therapy in Ulcerative Colitis: Its Place in Management."

Dr. Richard B. Cattell, Boston: "The Surgical Treatment of Ulcerative Colitis."

These four papers were discussed by Drs. J. A. Bargen, Rochester, Minn.; E. N. Collins, Cleveland; Joseph Felsen, New York; Sidney A. Portis, Chicago; Albert F. R. Andresen, Brooklyn; Garnet W. Ault, Washington, D. C.; Frank H. Lahey, Boston, and Moses Paulson, Baltimore.

The following papers were read in a symposium on "Gastritis and Gastric Neoplasms":

Drs. Leonidas H. Berry and T. Jonathan Cole, Chicago: "Therapy of Chronic Atrophic Gastritis with Eight Years' Gastroscopic Control."

Drs. Anthony Bassler and A. Gerard Peters, New York: "Distinctions Between Gastric Sarcoma and Carcinoma, with Special Reference to the Infiltrating Type of Sarcomas."

Drs. Samuel N. Maimon, Walter Lincoln Palmer and Joseph B. Kirsner, Chicago: "The Prognosis in Gastric Cancer—A Study of Five Year Survivors."

Dr. H. Leonard Bolen, Fall River, Mass.: "The Blood Pattern in Presymptomatic Malignancy of the Gastrointestinal Tract."

These four papers were discussed by Drs. Hyman L. Goldstein, Camden, N. J.; Henry A. Rafsky, New York; Rudolf Schindler, Los Angeles, and Samuel Friedman, New York.

FRIDAY, JUNE 13—AFTERNOON

A joint meeting was held with the Section on Surgery, General and Abdominal. The proceedings are reported in the minutes of that section.

SECTION ON RADIOLOGY

WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2:05 by the chairman, Dr. Bernard P. Widmann, Philadelphia.

Dr. Gonzalo Esguerra Gomez, Bogota, Colombia, South America, the invited foreign guest, read a paper on "The Question of Cardiac Hypertrophy in Residents of High Altitudes: Radiologic Study Conducted at 8,636 Feet Above Sea Level."

Dr. George W. Holmes, Boston, read the Centennial Address, entitled "Contributions of Radiology to the Diagnosis and Treatment of Disease."

Dr. Leo G. Rigler, Minneapolis, read a paper on "Routine Roentgen Examination of the Stomach of Symptomless Individuals." Discussed by Dr. Paul Swenson, Philadelphia.

Dr. John D. Camp, Rochester, Minn., read a paper on "Non-neoplastic Intracranial Calcification: Roentgenologic Manifestations." Discussed by Dr. Eugene P. Pendergrass, Philadelphia.

Drs. Vincent W. Archer, George Cooper and Norman Adair, University, Va., presented a paper on "Clinical Manifestations of Disease Masked or Modified by Chemotherapy: Increasing Responsibility of the Roentgenologist." Discussed by Dr. George M. Wyatt, Washington, D. C.

Drs. Ira H. Lockwood, Arthur B. Smith and John W. Walker, Kansas City, Mo., presented a paper on "Fundamental Concepts of Radiographic Diagnosis of Lesions of the Kidney." Discussed by Dr. H. Dabney Kerr, Iowa City.

Drs. C. Robert Hughes, John R. Hannan and Bert E. Mulvey, Cleveland, presented a paper entitled "Cholangiography in Stone, Stricture and Surgical Injury of Biliary Ducts."

THURSDAY, JUNE 12—AFTERNOON

The following officers were elected: chairman, W. Walter Wasson, Denver; vice chairman, Harry Weber, Rochester, Minn.; representative to Scientific Exhibit, Samuel Donaldson, Ann Arbor, Mich.

Drs. Robert P. Barden and David A. Cooper, Philadelphia, presented a paper entitled "Roentgen Appearance of the Chest in Some Diseases Affecting the Peripheral Vascular System of the Lung." Discussed by Dr. Francis M. Rackemann, Boston.

Drs. L. Henry Garland, San Francisco, and S. F. Thomas, Palo Alto, Calif., presented a paper on "Roentgen Diagnosis of Myocardial Infarction." Discussed by Drs. Philip J. Hodes, Philadelphia, and W. Edward Chamberlain, Philadelphia.

Drs. Marcy L. Sussman and Harold Neuhof, New York, presented a paper on "Pulmonary and Superior Caval Angiography in Relation to Pulmonary and Mediastinal Lesions."

Drs. Max Ritvo and David Davis, Boston, presented a paper on "Clinical and Roentgen Studies of Radiculitis Simulating Coronary Disease." Discussed by Drs. Albert Oppenheimer, Laconia, N. H., and Robert S. Stone, San Francisco.

Drs. J. Gershon-Cohen and Philip J. Hodes, Philadelphia, presented a paper on "Roentgenographic Examination of Breast Cancer." Discussed by Dr. W. Walter Wasson, Denver.

FRIDAY, JUNE 13—AFTERNOON

Drs. Harry H. Bowing and Robert E. Fricke, Rochester, Minn., presented a paper on "Late Results of Radium Therapy for Carcinoma of the Uterine Cervix." Discussed by Dr. Leda June Stacy, White Plains, N. Y.

Dr. Juan A. del Regato, Columbia, Mo., read a paper on "The Role of Transvaginal Roentgen Therapy in the Treatment of Carcinoma of the Cervix." Discussed by Dr. James A. Corscaden, New York.

Drs. Manuel M. Garcia and Leon J. Menville, New Orleans, presented a paper entitled "Critical Evaluation of Surgical and Radiation Therapy for Carcinoma of the Cervix." Discussed by Drs. Karl H. Martzloff, Portland, Ore., and Dr. James Heyman, Stockholm, Sweden.

Drs. Orville N. Meland, William E. Costolow and John W. Budd, Los Angeles, presented a paper on "The Role of Radiation Therapy in Cancer of the Breast." Discussed by Drs. U. V. Portmann, Cleveland, and Reuben Lavine, Syracuse, N. Y.

Dr. Frederick W. O'Brien, Boston, read a paper on "The Production of Analgesia by X-Radiation." Discussed by Drs. Hugh F. Hare, Boston, and B. J. Toth, Olean, N. Y.

Drs. James F. Kelly, D. Arnold Dowell and John F. Downing, Omaha, presented a paper on "X-Rays in the Prevention and Treatment of Infections." Discussed by Dr. John S. Bouslog, Denver.

Dr. Sidney Rubenfeld, New York, read a paper on "Roentgenologic Treatment of Lymph Nodes and Spleen in Brill-Symmers Disease." Discussed by Dr. Samuel E. Cohen, Elmira, N. Y.

SECTION ON ANESTHESIOLOGY

WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9:05 by the chairman, Dr. Charles F. McCuskey, Los Angeles.

On motion by Dr. Ralph M. Tovell, Hartford, Conn., seconded by Dr. Paul M. Wood, New York, it was voted unanimously that the chairman appoint a committee to investigate operating room deaths and to submit a report at the next annual meeting.

Dr. Clarence L. Hebert, Washington, D. C., read a paper on "Balanced Anesthesia for Thoracoplasty." Discussed by Drs. Robert Richard Jones, Battle Creek, Mich., and Robert B. Orr, St. Albans, N. Y.

Dr. Ralph M. Waters, Madison, Wis., read a paper on "Chloroform." Discussed by Drs. Paul M. Wood, New York, and Irving W. Potter, Buffalo.

Dr. Edward B. Tuohy, Rochester, Minn., read a paper on "Anesthesia for Abdominal Surgery." Discussed by Dr. Harry J. Shields, Toronto, Canada.

Dr. Donald E. Hale, Cleveland, read a paper on "Controlled Hypotension by Arterial Bleeding During Operation and Anesthesia." Discussed by Drs. Perry P. Volpitto, Augusta, Ga.; W. James Gardner, Cleveland; Ralph M. Waters, Madison, Wis., and Robert D. Dripps, Philadelphia.

Drs. J. J. Jacoby, J. M. Coon and H. M. Livingstone, Chicago, presented a paper entitled "Effect of Procaine on Liver Function: An Experimental and Clinical Study." Discussed by Drs. Robert D. Dripps, Philadelphia; John Adriani, New Orleans, and Frederick M. Allen, New York.

THURSDAY, JUNE 12—MORNING

The following officers were elected: chairman, Ralph M. Tovell, Hartford, Conn.; vice chairman, Stuart C. Cullen, Iowa City; representative to Scientific Exhibit, Urban Eversole, Boston.

The following nominees were approved by the section for the American Board of Anesthesiology, the board to make final selection of one of the nominees, who will then serve for six years: Drs. Charles F. McCuskey, Los Angeles; Douglass Batten, San Diego, Calif.; Ernest Warnock, Los Angeles.

Dr. Charles F. McCuskey, Los Angeles, read the chairman's address on "The Status of Anesthesiology as a Specialty."

Dr. Frank W. Hartman, Detroit, read a paper entitled "Pathology of Anesthesia." Discussed by Drs. Wesley Bourne, Montreal, Canada; Virgil H. Moon, Philadelphia, and Ivan B. Taylor, Detroit.

Dr. A. R. Hunter, Manchester, England, read the address of the invited foreign guest, entitled "Anesthesia for Operations Within the Vertebral Canal."

Dr. John S. Lundy, Rochester, Minn., read the Centennial Address, entitled "One Hundred Years of Anesthesia."

FRIDAY, JUNE 13—MORNING

Drs. Eunice Christensen and E. G. Gross, Iowa City, presented a paper entitled "A Comparison of the Analgesic Effects in Human Subjects of 6-Dimethyl Amino-4, 4-Diphenyl-3-Heptonone (An-148), Morphine and Meperidine (Demerol) and the Relative Efficiency of An-148 for Preoperative and Postoperative Use." Discussed by Drs. Leo V. Hand, Boston; Benjamin H. Robbins, Nashville, Tenn., and John S. Lundy, Rochester, Minn.

Drs. Henry S. Ruth, Haverford, Pa., Frederick P. Haugen and D. Dwight Grove, Philadelphia, presented a paper entitled "Anesthesia Study Commission: Findings of Eleven Years' Activity." Discussed by Drs. R. J. Whitacre, East Cleveland, Ohio, and Frank H. Lahey, Boston.

Drs. Edwin R. Ruzicka and Morris J. Nicholson, Boston, presented a paper on "Cardiac Arrest." Discussed by Drs. John B. Flick, Philadelphia; Ralph M. Tovell, Hartford, Conn., and Frank H. Lahey, Boston.

Drs. Julia G. Arrowood and Stanley J. Sarnoff, Boston, presented a paper entitled "Use of Differential Spinal Block in the Investigation of Intractable Pain Following Trauma to the Lower Extremity." Discussed by Drs. Meyer Saklad, Providence, R. I., and Joe Baird, Minneapolis.

Dr. John B. Dillon, Los Angeles, read a paper on "Anesthesia in the Aged." Discussed by Drs. Ansel M. Caine, New Orleans, and Mary Karp, Chicago.

SECTION ON GENERAL PRACTICE OF MEDICINE

WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9:15 by the chairman, Dr. Paul A. Davis, Akron, Ohio.

Dr. Paul A. Davis, Akron, Ohio, read the chairman's address, entitled "Practice of Medicine Today and the Future."

Dr. Francisco deP. Miranda, Mexico City, Mexico, the invited foreign guest, read a paper on "Nutrition and Endocrinology, with Special Reference to Nutrition Among the Indians of Mexico."

Dr. Walter C. Alvarez, Rochester, Minn., read the Centennial Address, entitled "What Should the General Practitioner Know About This New Psychosomatic Medicine?" Discussed by Dr. Frank N. Allan, Boston.

Dr. Lewis M. Hurxthal, Boston, read a paper on "Differential Diagnosis of Hypogenitalism at Time of Puberty." Discussed by Dr. Wingate M. Johnson, Winston-Salem, N. C.

Dr. Nils P. Larsen, Honolulu, Hawaii, read a paper on "The Use of Fluorine in Pediatrics." Discussed by Drs. William Wolf, New York, and Sixto Y. Orosa, Manila, Philippine Islands.

THURSDAY, JUNE 12—MORNING

The following officers were elected: chairman, Eric A. Royston, Los Angeles; vice chairman, M. B. Casebolt, Kansas City, Mo.; secretary, W. B. Harm, Detroit; executive com-

mittee, Eric A. Royston, Los Angeles; Paul A. Davis, Akron, Ohio, and Wingate M. Johnson, Winston-Salem, N. C.; delegate, Howard E. Griffin, Graham, Texas; alternate, Tom Robinson, Salt Lake City.

Dr. F. E. Poole, Glendale, Calif., read a paper on "The General Practitioner as an Adjunct to the Industrial Surgeon." Discussed by Drs. Clarence D. Selby, Detroit, and W. B. Harm, Detroit.

Dr. Marion B. Sulzberger, New York, read a paper on "Common Misconceptions in Regard to Dermatology." Discussed by Drs. Donald M. Pillsbury, Philadelphia, and F. W. Lynch, St. Paul.

Dr. Francis D. Murphy, Milwaukee, read a paper on "Arterial Hypertension: The Diagnosis and Treatment of Its Complications." Discussed by Drs. N. C. Gilbert, Chicago; Frederick M. Allen, New York, and David Ayman, Boston.

Dr. J. Lewis Dill, Detroit, read a paper entitled "The Stuffy Nose." Discussed by Dr. G. Marchmont Robinson, Chicago.

Drs. Arthur R. Metz and Raymond Householder, Chicago, and Gerrit Dangremand, Lake Bluff, Ill., presented a paper entitled "The Traumatic Abdomen." Discussed by Dr. Grover C. Penberthy, Detroit.

Dr. Gilson Colby Engel, Philadelphia, read a paper on "Reducing Mortality in Gastric Carcinoma." Discussed by Drs. T. Grier Miller, Philadelphia, and Eric A. Royston, Los Angeles.

FRIDAY, JUNE 13—MORNING

Dr. T. E. Robinson, Salt Lake City, read a paper entitled "Further Observations on Dehydration Treatment in Poliomyelitis, with Some New Concepts in the Pathologic Physiology of the Disease." Discussed by Dr. George J. Boines, Wilmington, Del.

Drs. Robert L. McMillan and Charles R. Welfare, Winston-Salem, N. C., presented a paper on "The Treatment of Chronic Auricular Fibrillation with Quinidine Sulfate." Discussed by Dr. George T. Harrell Jr., Winston-Salem, N. C.

Dr. Edward Weiss, Philadelphia, read a paper on "Psychotherapy in Everyday Practice." Discussed by Drs. O. Spurgeon English, Philadelphia; Dr. Sidney A. Portis, Chicago, and Dr. Herbert F. Robb, Belleville, Mich.

Dr. R. B. Robins, Camden, Ark., read a paper entitled "Hints in General Surgery." Discussed by Dr. Philip Thorek, Chicago.

Drs. Stuyvesant Butler and William A. Thomas, Chicago, presented a paper on "Headache." Discussed by Dr. Paul A. Davis, Akron, Ohio.

SECTION ON MISCELLANEOUS TOPICS

Session on History of Medicine

WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2 o'clock by the acting chairman, Dr. Howard Dittrick, Cleveland. Dr. A. H. Whittaker, Detroit, acted as secretary.

The following papers were read on the "History of American Medicine":

Dr. M. P. Rucker, Richmond, Va.: "In the Old Dominion."

Dr. Henry R. Viets, Boston: "In the Massachusetts Bay Colony."

Dr. R. H. Shryock, Philadelphia: "In Philadelphia."

Dr. E. F. Horine, Brooks, Ky.: "In Kentucky and the Mississippi Valley."

Dr. E. Ashworth Underwood, London, England, read the address of the invited foreign guest, entitled "Spread of the Public Health Movement in England, 1847-1875."

The following papers were read on the "History of Military Medicine":

Dr. R. E. Dyer, Bethesda, Md.: "Public Health Service."

Dr. L. H. Roddis, Washington, D. C.: "United States Navy."

Dr. Harold W. Jones, Washington, D. C.: "United States Army."

Session on Physical Medicine

THURSDAY, JUNE 12—AFTERNOON

The meeting was called to order at 2:10 by the chairman, Dr. Frank H. Krusen, Rochester, Minn.

Dr. D. Y. Solandt, Toronto, Canada, read the address of the invited foreign guest, on "The Relationship of Physical Medicine to Industrial Medicine."

Dr. Arthur Abramson, a paraplegic of World War II, a patient in a Veterans Administration hospital, now working in the Veterans Administration Medical Rehabilitation program, presented the following resolution, which on motion by Dr. Frank R. Ober, Boston, seconded by Dr. Sidney Licht, Boston, was unanimously adopted:

Resolved, That the Section on Physical Medicine, in session at the Centennial Meeting of the American Medical Association, hereby expresses its deep gratitude to Mr. Bernard M. Baruch for his wisdom, vision, leadership and personal generosity in bringing the benefits of physical medicine and rehabilitation to increasing numbers of America's disabled, and that a copy of this resolution be forwarded to Mr. Baruch with the heartfelt thanks of this assembly.

Dr. Earl C. Elkins, Rochester, Minn., read a paper on "Rehabilitation of Paraplegics."

Drs. Arthur L. Watkins and Jacob Ellis Finesinger, Boston, presented a paper on "Psychiatric Aspects of Physical Medicine."

Dr. Steven M. Horvath, Philadelphia, read a paper on "Fundamentals of Physical Medicine of Interest to the General Practitioner."

The following papers were read in a panel discussion on "Physical Medicine in General Practice," with Dr. Frank H. Krusen, Rochester, Minn., acting as moderator:

Dr. Walter M. Solomon, Cleveland: "Physical Treatment of Arthritis."

Dr. Walter S. McClellan, Saratoga Springs, N. Y.: "Physical Medicine in the Treatment of the Aged."

Dr. Frank R. Ober, Boston: "Physical Medicine and Backache."

Dr. Anthony C. Cipollaro, New York: "Physical Treatment of Common Dermatologic Conditions."

Dr. Miland E. Knapp, Minneapolis: "Physical Medicine in the Management of Fractures."

Session on Allergy

FRIDAY, JUNE 13—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Harry L. Huber, Chicago.

Dr. Harry L. Alexander, St. Louis, read a paper on "Allergy in the Perspective of General Medical Practice." Discussed by Dr. Stearns S. Bullen, Rochester, N. Y.

Dr. Francis C. Lowell, Boston, read a paper on "The Newer Concept of Allergy to Drugs and Bacteria." Discussed by Dr. M. G. Bohrod, Rochester, N. Y.

Dr. Leo H. Criep, Pittsburgh, read a paper on "The Practical Aspects of Allergic Rhinitis." Discussed by Dr. Theodore L. Squier, Milwaukee.

Dr. Jerome Glaser, Rochester, N. Y., read a paper on "Cutaneous Allergy in Pediatric Practice." Discussed by Dr. Rudolph Baer, New York.

Dr. Samuel M. Feinberg, Chicago, read a paper on "The Newer Drugs in the Treatment of Allergic Diseases." Discussed by Dr. Leon Unger, Chicago.

The following participated in a panel discussion on "The Treatment of Asthma": Drs. J. Harvey Black, Dallas, Texas, moderator; Charles H. Eyerman, St. Louis; Louis Tuft, Philadelphia, and George Pincus, Los Angeles. The discussion was summarized by Dr. Robert A. Cooke, New York.

Washington Letter

(From a Special Correspondent)

July 2, 1947.

Radioisotopes Described as Holding Great Promise to Mankind

The Atomic Energy Commission's medical board of review announced after its first meeting that "no phase of the atomic energy program offers greater promise of benefit to mankind" than the continued supply of radioisotopes. Radioactive counterparts of normal atoms were said to be used in various fields of medical, biologic, agricultural and industrial research. The board also reported that the measures taken by the Atomic Energy Commission for the protection of workers engaged in development of atomic energy had made a "potentially dangerous occupation one of the safest in America." The board stated that the training of research workers "is probably the most important form of support which the commission can give to outside medical and biological research." The medical board was formed to check on commission research in medical fields and to suggest policies on research carried on by nongovernmental agencies. Dr. Robert F. Loeb, Lambert professor of medicine, Columbia University College of Physicians and Surgeons, New York, is chairman.

House Committee Approves Pay Boost for Service Doctors, Dentists

The House Armed Services Committee has approved legislation boosting the pay of Army, Navy and Public Health Service doctors and dentists. Medical men now in the services and those entering within the next two years will receive an additional $100 a month over their regular pay and allowances under the measure. Those rated as specialists in various fields of medicine would, in addition, be given a 25 per cent increase in their base longevity pay. A subcommittee report stated that "civilian practice is so lucrative to a private practitioner that some action must be taken by Congress or there will be insufficient doctors to adequately provide for Army and Navy personnel." The bill excludes young army and navy reserve doctors whose medical education expenses are paid by the government, unless they are from the regular services.

Council to Conduct Hospital Survey

The Hospital Advisory Council of the District of Columbia has announced that it plans to conduct a survey of Washington's hospital and health facilities and needs as a first step toward federal aid in a construction program under the Hospital Survey and Construction Act of 1946. Still under dispute is the transfer of the Nevius tract, adjacent to Arlington National Cemetery, as the site of a large veterans' hospital.

Advocates Federal Agency for Physically Handicapped

Representative Ray J. Madden, Democrat of Indiana, proposed the establishment of a government department devoted to the interests of the nation's 8 million physically handicapped persons at a meeting of the American Federation of the Physically Handicapped. The federation president, Paul Strachan, lauded Robert C. Goodwin, director of the United States Employment Service, for having placed more than 1,300,000 handicapped persons in jobs.

Advocates Including Question on Vaccination in Census Queries

A dermatologist in Brooklyn has asked the Department of Commerce to include in its census queries "Have you ever been successfully vaccinated?" He explained that it would provide accurate figures on the rate of vaccination and should be followed by a federal law making vaccination against smallpox compulsory.

Coming Medical Meetings

Alaska Territorial Medical Association, Fairbanks, July 28-30. Dr. William J. Blanton, Juneau, Secretary.

American Physiotherapy Association, Pacific Grove, Calif., July 6-12. Miss Mildred Elson, 179e Broadway, New York 19, Secretary.

Medical Legislation

STATE LEGISLATION

Alabama

Bill Introduced.—S. 121 proposes to require all persons within the ages of 13 and 50 years to be examined and x-rayed or otherwise tested for tuberculosis, the test to be performed either by agents of the state board of health or by doctors or technicians approved by the state board of health.

Bill Passed.—H 151, which passed the house June 10, to amend the law relating to marriages, proposes that each applicant for a marriage license shall file a certificate signed by a legally licensed physician in Alabama or in the state where the applicant resides certifying that the applicant is not infected with syphilis in a communicable stage. The present law requires such an examination for males only.

Connecticut

Bills Passed.—H. 550, which passed the senate June 3, to amend the medical practice act, proposes to grant the board discretion in accepting licenses from other states in lieu of examination. The proposal would further require that a person who has been refused a certificate by the state board of healing arts may not qualify for approval without examination by the license examining board until he has met the requirements of and been certified by the state board of healing arts. S. 229 which passed the senate June 5, proposes to exempt from taxation Connecticut hospitals operating without possibility of profit.

Bills Enacted.—H. 1375, which was approved June 19, creates a division of professional and vocational licensing to include, among others, the state board of healing arts, the medical examining board, the board of osteopathic registration, the board of chiropractic examiners and the board of naturopathic examiners. S. 133, which was approved June 9, provides higher minimum requirements and more rigid supervision of the professional practice of osteopathy in the state.

Florida

Bills Enacted.—H. 257, which became law without approval June 16, 1947, provides for the licensing, inspecting and regulating of hospitals and the creation of an advisory hospital council. S. 245, which was approved May 15, authorizes the superintendent of the Florida State Hospital, when unable to obtain necessary medical personnel from within the state, to employ competent, experienced medical personnel from outside of the state of Florida and provides that personnel so employed shall be exempt from existing requirements of law as to time of residence in the state and also as to requirements relating to the passing of an examination in the basic sciences.

New Jersey

Bills Enacted.—A. 158, which has become chapter 243 of the Laws of 1947, amends the medical practice act by granting the same recognition to Canadian and Newfoundland medical schools as is granted to medical schools of the United States. S. 208, which has become chapter 223 of the Laws of 1947, authorizes the state department of health to purchase and distribute free, in accordance with rules of said department, antitoxins for use in preventing or treating communicable diseases.

Ohio

Bill Enacted.—H. 294, which was approved May 17, amends the law relating to the practice of chiropody by authorizing the state board of medical examiners to adopt rules and regulations permitting in the practice of chiropody the use of such drugs as are necessary to such practice.

Pennsylvania

Bill Passed.—H. 982, which passed the senate June 14, proposes to define chiropody as "the diagnosis and treatment of the ailments of the human foot. This shall not confer the right to amputate any part of foot, leg or toes or the use of any anesthetic other than local for the treatment of any constitutional disease."

Rhode Island

Bill Enacted.—H. 612, which was approved June 2, is a hospital survey and construction act requiring a survey of hospital facilities in the state and the preparation of a program for the construction of additional needed facilities. The law requires the appointment of an advisory hospital council and authorizes the director of the state department of health to apply to the surgeon general for federal funds to assist in either the survey or the construction of new facilities.

South Carolina

Bill Enacted.—H. 761, which was adopted April 30, appoints a commission to make a full investigation of the practices of the board of osteopathic examiners in the state in the matter of issuance of licenses, the examinations and personal qualifications required of applicants to practice naturopathy in the state and the propriety of granting licenses therefor.

Texas

Bill Passed.—H. 217, which passed the senate June 2, proposes, among other things, that any physician duly licensed under the laws of Texas to practice medicine who, when an autopsy is ordered by a justice of the peace, performs the autopsy in good faith in the belief that the order of the autopsy is a valid order, shall not be held liable for damages in the event it should be determined that the order of autopsy made by the justice of the peace was for any reason invalid.

GOVERNMENT SERVICES

ARMY

DISCHARGE OF MEDICAL OFFICERS

The War Department has announced that, effective July 1, all nonvolunteer doctors, dentists, dietitians and Veterinary and Sanitary Corps officers will be eligible for separation on completion of two years' service. Nurses, physical therapists and Medical Administrative Corps officers except those who have volunteered for extended active duty will be eligible for immediate separation. Critically needed medical officers can still be individually retained when it is essential for the proper care of patients, the announcement stated. Thirty-six specialists are still being retained as essential in army hospitals. Major Gen. Raymond W. Bliss, newly appointed Surgeon General, explained that this new demobilization plan will permit the separation of medical specialists who previously have been subject to three years' service, and it will facilitate the reclassification of young doctors in specialist grade.

Service requirements for members of both the Veterinary and the Sanitary Corps will be reduced from thirty-two months to twenty-four months. Practically all nonvolunteer Medical Administrative Corps officers and physical therapists have already been separated, and the reduction in length of service requirements will affect only a handful of these officers. There is no change for dentists, dietitians and nurses.

ARMY AWARDS AND COMMENDATIONS

Colonel Burr Noland Carter

The Legion of Merit has been awarded to Col. Burr Noland Carter, M. C., A. U. S., of Cincinnati. The citation read in part as follows: "He served as assistant director, Surgical Consultants Division, Office of the Surgeon General, from March 13, 1942, to Aug. 13, 1945. The part played by Colonel Carter in the proper assignment of well qualified surgical personnel, the selection of the finest available surgical equipment and supplies for use throughout the Army, the development of sound fundamental professional policies, his work as administrator of an extensive penicillin research program conducted by the Medical Department when little was known about this new drug and, finally, his role in the development of the whole blood and blood plasma programs of the Army were of greatest importance to the Medical Department and to the American soldier. The low mortality rate among the wounded in this war is directly related to Colonel Carter's knowledge, vision, administrative skill and energetic efforts." Dr. Carter graduated from the University of Virginia Medical School in 1919 and entered the military service March 13, 1942.

Colonel Harry A. Bishop

The Legion of Merit has been awarded to Col. Harry A. Bishop, M. C., U. S. Army, who performed exceptionally meritorious service as commanding officer, Welch Convalescent Hospital, Daytona Beach, Fla., from April 1945 to July 1946. The citation states that his energetic devotion to duty, initiative, judgment, leadership and administrative ability has been superior. He has been responsible for the outstanding accomplishment of this hospital in reconditioning and rehabilitation of overseas sick and wounded which has reflected great credit on the service. Dr. Bishop graduated from the University of Maryland School of Medicine, Baltimore, in 1912, and entered military service June 16, 1918.

Colonel Frank L. Cole

The Legion of Merit has been awarded to Col. Frank L. Cole, M. C., U. S. Army. According to the citation, as commanding officer of Wakeman Hospital Center, Camp Atterbury, Indiana, he effectively developed and perfected the organization and functioning of his command from May 1945 to December 1945. Responsible for the supervision of the newly activated center, which included the general hospital having the largest number of authorized beds of any hospital in the Fifth Service Command, in addition to a convalescent hospital of 6,000 beds and an enlisted technicians' school he successfully coordinated its diversified and rapidly expanding activities. Dr. Cole graduated from the University of Illinois College of Medicine in 1914 and entered the military service in March 1917.

Colonel John M. Tamraz

The Legion of Merit has been awarded to Col. John M. Tamraz, M. C., U. S. Army, for exceptionally meritorious conduct in the performance of outstanding service as surgeon, Headquarters, Services of Supply, China-Burma-India Theater, during the period March 1942 to December 1943. Colonel Tamraz effectively solved the many intricate problems coming within his province in connection with the organization of the medical facilities of the Services of Supply, including a highly valuable liaison with the military medical services of the British. His resourcefulness, efficiency, energy and devotion to duty made him of outstanding value in the organization and initial accomplishment of its mission, thereby reflecting great credit on himself and on the armed forces of the United States. Dr. Tamraz graduated from Columbia University College of Physicians and Surgeons, New York, in 1917 and entered the military service in August 1918.

Colonel William B. Foster

The Legion of Merit has been awarded to Col. William B. Foster, M. C., U. S. Army. According to the citation "he performed exceptionally meritorious service as senior medical member of the Secretary of War's Separation Board from January 1944 to February 1946. He devoted long and arduous hours to the professional analysis of thousands of cases involving final separation of officers from active military service. His recommendations, drawn from careful research and analysis of medical records, were strongly reflected in the final decisions rendered by the board." Dr. Foster graduated from Vanderbilt University Medical School in 1916 and entered military service in 1917.

Colonel William F. DeWitt

The Legion of Merit has been awarded to Col. William F. DeWitt, M. C., U. S. Army. The citation read as follows: "He performed meritorious service as staff surgeon, Headquarters, Southeast Air Corps Training Center, from February 1942 to February 1943. With outstanding administrative ability he overcame the difficulties occasioned by the expansion of his duties incident to mobilization. On his assignment to this office he quickly developed it into an efficient and smoothly running organization." Dr. DeWitt graduated from Baylor University College of Medicine, Dallas, Texas, in June 1924 and entered the military service Nov. 15, 1924.

Lieutenant Colonel Leonard W. Hines

The Legion of Merit was recently awarded to Lieut. Col. Leonard W. Hines, M. C., A. U. S., San Francisco. "While serving with the Army Air Forces Training Command, from April 1941 to February 1946" says the citation, he "contributed prominently to the increase of air crew safety, specifically in connection with high altitude flight operations. His outstanding achievements and exemplary devotion to duty reflect great credit on himself and the Army Air Forces." Dr. Hines graduated from the University of California Medical School in 1933 and entered the service April 24, 1941.

Lieutenant Colonel Matthew Molitch

The Army Commendation Ribbon has been awarded to Lieut. Col. Matthew Molitch, M. C., A. U. S., of Atlantic City, N. J., who, according to the citation, did exceptionally meritorious work in the performance of outstanding service as neuropsychiatric consultant, Armored Replacement Training Center, Fort

Knox, Kentucky, from January 1944 to Jan. 10, 1946. Dr. Molitch graduated from the University of Pennsylvania School of Medicine, in 1929 and entered the service July 24, 1942.

Lieutenant Colonel Edwin S. Kagy

The Bronze Star Medal was recently awarded to Lieut. Col. Edwin S. Kagy of New Orleans by direction of the President for outstanding courage and medical ability in protecting the health and lives of fellow prisoners while serving as surgeon and physician at the Omori, Shinagawa, Niigata and Tokyo 3D prison camps in Japan from September 1943 to August 1945. Dr. Kagy graduated from the School of Medicine of Tulane University of Louisiana in New Orleans in 1934 and entered the military service Aug. 5, 1935.

Captain Granville W. Larimore

The Legion of Merit has been awarded to Capt. Granville W. Larimore, M. C., A. U. S., of New York. The citation read in part as follows: While serving in various capacities in the preventive medicine service, Office of the Surgeon General, from August 1943 to September 1945 he performed notably outstanding service. As Chief of the Education Branch, Venereal Disease Control Division, Captain Larimore was a key figure in promoting a complete armywide venereal disease education program. As chief of the Health Education Unit, his responsibilities were extended to all health education matters in the field of preventive medicine. Dr. Larimore graduated from Rush Medical College, University of Chicago, in 1936 and entered the military service in June 1942.

NAVY

MEETING OF NAVY CONSULTANTS

The Board of Consultants to the Bureau of Medicine and Surgery met June 16 at the Naval Medical Center, Bethesda, Md., in connection with the graduate medical training program of the Navy, to review the progress made during the first year of the program (THE JOURNAL, June 28, p. 814), and to formulate future plans. The consultants are mostly former Naval Reserve officers, and as members of American specialty boards they are assisting the Navy in providing training which will meet the standards of the American specialty boards.

Those attending the meeting were Drs. W. M. Craig, chairman, Rochester, Minn.; Howard K. Gray, Rochester, Minn.; Marion B. Sulzberger, New York; Alphonse McMahon, St. Louis; E. N. Broyles, Baltimore; Donald Hale, Cleveland; Paul Titus, Pittsburgh; Joseph S. Barr, Boston; J. Roscoe Miller, Chicago; George M. Lyon, Huntington, W. Va.; Wendell Scott, St. Louis; Paul Greely, Chicago, and M. G. Wastmoreland, Chicago. Following the meeting a buffet supper in honor of the members of the board was held at the quarters of Capt. L. O. Stone (MC), U.S.N., at the Naval Medical Center.

NAVY AWARDS AND COMMENDATIONS

Captain Louis H. Roddis

Capt. Louis H. Roddis (MC), has been awarded the Navy Commendation Ribbon for service rendered in World War II as Senior Medical Officer of the U. S. S. *Relief*. The citation reads in part as follows: While serving as senior medical officer of the U. S. S. *Relief* from March 4 to Sept. 9, 1944 his professional skill and devotion to duty contributed to the smooth and efficient functioning of the Medical Department. During fleet concentrations he rendered invaluable consultation service and dealt with many medical problems, both in disease prevention and in evacuation of the sick and wounded. Under his direction, during the capture of Saipan and Tinian, large numbers of serious casualties were embarked and transported, many directly from the beachheads. His performance of duty was outstanding and his conduct was at all times in keeping with the highest traditions of the U. S. Naval Service. Dr. Roddis graduated from the University of Minnesota Medical School in 1913 and entered the naval service in 1914. He is now chief of the publications division of the Bureau of Medicine and Surgery and editor of the *United States Naval Medical Bulletin*.

VETERANS ADMINISTRATION

THE VETERAN POPULATION

According to the latest tabulation by the Veterans Administration there was a total of 18,188,000 living veterans as of May 1, of whom 14,267,000 served in World War II. More than 100,000 veterans live in Alaska, the Canal Zone, Hawaii and Puerto Rico and some 50,000 in foreign countries exclusive of the Philippines. The total number estimated does not include United States citizens who served only in Allied military forces, some of whom are eligible for various Veterans Administration benefits.

CONTRACT FOR LOUISIANA HOSPITAL

The War Department has announced that the Army Corps of Engineers has let the architect-engineer contract for the Veterans Administration hospital at Mound Bayou, La., which will be a 200 bed general medical and surgical hospital. The Mound Bayou is another unit in the construction program involving seventy-four hospitals and the expenditure of $770,000,000 undertaken by the Corps of Engineers for the Veterans Administration.

HOSPITALS AT PITTSBURGH

The Army Corps of Engineers has awarded the architect-engineer contract for the veterans' neuropsychiatric hospital at Pittsburgh and about a week ago made a similar contract for the veterans' general medical and surgical hospital at Pittsburgh. These hospitals will have a capacity of 1,300 and 1,200 beds respectively.

PERSONALS

Dr. Merlin H. Draper, Tampa, has been appointed consultant in tuberculosis to the medical staff of Bay Pines (Florida) Veterans' Hospital. He is at present superintendent and medical director of the Florida State Tuberculosis Sanatorium and previously had been medical director at the Irene Bryon Sanatorium, Fort Wayne, Ind., for nineteen years.

Dr. Cleve C. Odum has become manager of the Veterans Administration hospital at Augusta, Ga., succeeding Dr. Henry O. Witten, who was transferred to a veterans' hospital in California, where he planned to retire.

MISCELLANEOUS

SALE OF SURPLUS GOVERNMENT PROPERTY

The War Assets Administration is conducting sales of surplus government property announced by the following regional offices. Physicians who are veterans have certain priorities in the purchase of surplus government property.

Regional Office, 728 Fifteenth Street, Denver 2. Sale of drugs, laboratory equipment and supplies, hospital and surgical supplies. Sale closes July 8.

Regional Office, 8900 South Broadway, St. Louis. Sale of surgical knives, catheters, bone chisels, forceps, proctoscopes, operating scissors and utensils and dressing steriliaers. Sale closes July 14.

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Medical News

(Physicians will confer a favor by sending for this department items of news of general interest: such as rebate to society activities, new hospitals, education and public health. Programs should be received at least two weeks before the date of meeting.)

ARIZONA

Arizona Society of Psychiatry and Neurology.—This society was founded at a meeting on May 7 during the annual meeting of the Arizona State Medical Association at Tucson. The meeting was attended by most of the physicians practicing psychiatry and neurology in the state. Regular meetings are planned for the future. Dr. Otto L. Bendheim, Phoenix, was elected president and Dr. Lindsay E. Beaton, 1650 North Cambell Avenue, Tucson, secretary.

COLORADO

Dr. Sabin Receives Medal.—Dr. Florence R. Sabin, Denver, recently received the first Jane Addams Medal given by Rockford College, Rockford, Ill., for distinguished service by an American woman, for her achievements as a leading spirit in public health programs in Colorado. Dr. Sabin retired a few years ago from the Rockefeller Institute of Medical Research, New York, only to find herself head of the state subcommittee on health, on which she has been very active.

CONNECTICUT

Rural Health Conference.—New England's first all day rural health conference will be sponsored by the Connecticut State Medical Society and the University of Connecticut, New Haven, July 16, with Dr. Norman H. Gardner, East Hampton, chairman. About 300 representatives of civic, social, farm and health agencies will be invited to the conference. The program will include talks by leaders of state and private health agencies and panel discussions on the control of communicable diseases, housing, sanitation, school health, mental health, chronic diseases and dental health. Dr. James R. Miller, Hartford, president of the state medical society, will preside at the morning program.

Dr. Long Succeeds Dr. Blake as Dean at Yale.—Dr. C. N. Hugh Long, Sterling professor of physiologic chemistry, Yale University School of Medicine, New Haven, since 1938, and chairman of the department since 1936, was appointed dean of the medical school beginning July 1 to succeed Dr. Francis G. Blake. Dr. Long took his medical degree at McGill University Faculty of Medicine, Montreal, Que., 1928, where he was also lecturer in medical research from 1925 to 1929. He was assistant professor of medicine at the University of Pennsylvania School of Medicine, Philadelphia, 1929-1932, and director of the Cox Medical Research Institute, 1932-1936. He is a member of the Committee on Research in Endocrinology, National Research Council.

GEORGIA

State Medical Election.—At the annual meeting of the Medical Association of Georgia Dr. Steve P. Kenyon, Dawson, became president and Dr. Edgar H. Greene, Atlanta, president-elect. Drs. J. Victor Roule, Augusta, and Theodore J. Ferrell, Waycross, were elected vice presidents. Dr. Edgar D. Shanks, Atlanta, will continue as secretary. The session voted to make the Abner Wellborn Calhoun Lectureship a permanent lectureship of the association. For distinguished service to organized medicine and for other activities as well, Dr. Allen H. Bunce, Atlanta, was awarded the Hardman Loving Cup. He has long been an officer of the association and for many years was a member of the Board of Trustees of the American Medical Association. Physicians registered for the meeting numbered 657.

Dr. Warren Heads Physiology Department.—Dr. James V. Warren, formerly associated with Emory University School of Medicine, Atlanta, and during the past year assistant professor of medicine at Yale University School of Medicine, New Haven, Conn., has accepted the appointment as professor of physiology and chairman of the department at Emory. A graduate of Harvard Medical School, Boston, 1939, Dr. Warren has received in competition the "Travel Award" given by the American Physiological Society for the best abstract of a paper that might be read at the seventeenth International Physiological Congress, which is to be held at Oxford, England, July 22-25. This abstract was on a project carried out during Dr. Warren's association with the department of medicine at Emory. He succeeds Dr. J. George Bachmann, who is retiring at the end of the present session.

ILLINOIS

Robert Coghill Cited by University of Kansas.—A distinguished service citation was conferred on Robert D. Coghill, Ph.D., Lake Bluff, Ill., by the University of Kansas in recognition of his public service in conducting research that made possible mass production of penicillin. Dr. Coghill, formerly in charge of the research program of the U. S. Department of Agriculture at Peoria, is now director of research of Abbott Laboratories in North Chicago.

Chicago

Dr. O'Conor Heads Department of Urology.—Dr. Vincent J. O'Conor, associate professor of urology at Northwestern University Medical School, has been appointed chairman of the department to succeed Dr. Louis E. Schmidt, now professor emeritus. Dr. O'Conor, a graduate of Rush Medical College, Chicago, 1917, is chairman of the urology department at Wesley Memorial Hospital and advisory urologist at Chicago Memorial Hospital.

Two Nationally Known Pharmacists Die.—The American Society of Hospital Pharmacists has requested the publication of the following deaths: William J. Gray, chief pharmacist of Presbyterian Hospital, Chicago, for thirty-five years, died Sept. 10, 1946, aged 79. Irwin A. Becher, chief pharmacist at Michael Reese Hospital for forty years, died March 13. These men were known far and wide as advocates of the best in professional pharmacy.

Dr. Harrison Appointed Vice President.—Roland W. Harrison, Ph.D., dean of the division of biologic sciences, University of Chicago, will become vice president of the university and dean of faculties July 1, succeeding Lawrence A. Kimpton, Ph.D., resigned to become dean of students and professor of philosophy at Stanford University August 1. Dr. Harrison became associated with the University of Chicago in 1937 as an assistant professor of bacteriology, becoming associate professor in 1941 and full professor in 1943. He has been dean of the division of biologic sciences since 1944.

Appoint Superintendent at Wesley Memorial.—Ralph M. Hueston, superintendent of Hurley Hospital, Flint, Mich., has been appointed superintendent of Wesley Memorial Hospital, filling the vacancy caused by the death of Edgar Blake Jr. last March. Mr. Hueston has had almost a quarter of a century of experience in hospital administration, beginning at the Galesburg Cottage Hospital in 1924. He came to Austin Hospital, Chicago, in 1926. After ten years at Silver Hospital in Joliet, Ill., he went to Hurley Hospital in 1936. He has been active on the executive committee of Michigan set up to survey that state's hospital program.

Dr. Dragstedt Succeeds Dr. Phemister.—Dr. Lester R. Dragstedt, a graduate of Rush Medical College, 1921, on June 20 was appointed Thomas D. Jones professor and chairman of the department of surgery, University of Chicago, to succeed Dr. Dallas B. Phemister, who will retire July 1 as head of the department which he organized twenty-two years ago. Dr. Dragstedt came to the university in 1921 as assistant professor of physiology. In 1925 he was made associate professor of surgery and in 1930 professor of surgery. He is a founder of the American Board of Surgery. Dr. Phemister will continue at the university as Thomas D. Jones professor emeritus in the department.

INDIANA

Dr. Van Nuys Appointed Dean of Medicine.—Indiana University announced June 14 the appointment of Dr. John D. Van Nuys, 39, member of its medical staff, as dean of the School of Medicine. Since the resignation of Dean Willis A. Gatch last July, Dr. Van Nuys has been executive secretary of the Interim Committee. A graduate of Indiana University School of Medicine, 1936, he has been a director of admissions at the Indiana University medical center, Indianapolis, a director of admissions to the University Hospital and an assistant in medicine at the university.

LOUISIANA

New Director of Leprosarium.—The U. S. Public Health Service has named Dr. Frederick A. Johanson, Carrville, who has been connected with the institute for over twenty years, director of the United States Marine Hospital (National Leprosarium) at Carrville. He will replace Dr. G. A. Faget, former director, who has been ill.

Form State Allergy Society.—The Louisiana State Allergy Society was formed April 1 in Shreveport. The purposes of the society are to further the study of allergy, promote discussion and bring together the allergists of the state. Drs. Bernard G. Efron, New Orleans, was elected president, Henry D. Ogden, New Orleans, vice president and Joseph D. Youman Jr., Shreveport, secretary-treasurer.

MICHIGAN

Plans to Protect Health of Vacationists.—The Michigan Department of Health, Lansing, began June 16 to check up on all sanitary facilities of resort areas which will accommodate millions of summer visitors. Water, food and milk supplies and sewage disposal will be checked, camps and resorts inspected, swimming places approved and polluted lakes and streams posted with warning signs. If sanitary practices are approved, centers bidding for tourist trade will display the sign "Sanitation Approved." The snail eradication program of the Michigan Stream Control Commission is under way for its eighth consecutive year. Swimmers' itch is caused by microscopic larvae that develop in certain kinds of snails. The commission sends men into the northern resort country to apply the snail killing chemicals, but local residents and communities have to furnish the chemicals, as no state funds have been provided for material.

NEW YORK

Rochester Academy Awards.—Dr. Clarence P. Thomas, Rochester, was presented with the Albert David Kaiser Medal at the Rochester Academy of Medicine June 6 on the basis of his war service as chairman of the Medical Defense Committee and the succeeding War Participation Committee. Dr. Charles R. Witherspoon was honored with a special citation and a life membership in the academy. Dr. Frank R. Schell, assistant in pathology, Rochester General Hospital, was the recipient of the award presented yearly by Mrs. David B. Jewett for the best case history submitted by a house officer of an accredited Monroe County hospital.

New York City

Cancer Control in Industry.—The Brooklyn Cancer Committee has released its fifth monthly cancer control reminder to 5,000 firms for posting on factory, store and office walls. Each poster deals with a symptom which may be a sign of cancer. Successive titles have been "Why Wait for Pain?", "Have You a Healthy Mouth?", "Can Cancer Be Prevented?", "Have You Indigestion?" and "Don't Hide Those Lumps!"

Personal.—Dr. John L. Rice, New York, former health commissioner of the city, was elected president of the Public Health Association of New York at the annual meeting June 2. ——Dr. Oswald T. Avery, New York, emeritus member of the Rockefeller Institute for Medical Research, received the honorary degree of Doctor of Science at New York University, New York, June 11. The citation read, in part, "pioneer in the chemistry of immunology, whose laboratory conquests have quelled the ravages of . . . pneumonia."

OHIO

Illegal Practitioners.—Found guilty of practicing illegally in Bowling Green, Belle Urban and LaVerne Lemans were each fined $400, with $375 of each fine suspended by the Justice Court of E. E. Bailey in Wood County, on condition that they leave the state. Two unlicensed practitioners, W. R. King and William A. Pierzchala, recently convicted in the Toledo Municipal Court, paid fines after their conviction was suspended by the Court of Common Pleas of Lucas County.

State Health Director Resigns.—Dr. Roger E. Heering, director of the Ohio Department of Health, has resigned to enter private practice in Columbus. In his resignation he pointed out the failure of the general assembly to provide adequate funds for the operation of essential functions and activities in the health department. According to the *Ohio State Medical Journal* the federal government has been giving the Ohio Department of Health twice as much money for current operation as the amount appropriated by the state.

OREGON

Dr. Livingston Heads Department of Surgery.—Dr. William K. Livingston, formerly of Portland, now guest professor at New York University Medical School, New York, will become head of the department of surgery at the University of Oregon Medical School, Portland, August 1, to succeed the late Dr. Thomas M. Joyce. A graduate of the University of Oregon and Harvard Medical School, Boston, he did graduate work in surgery at Massachusetts General Hospital, Boston, and Lakeside Hospital, Cleveland. During World War II he served four years in the navy. He was discharged in 1946 with the rank of lieutenant commander.

PENNSYLVANIA

Society Election.—The Pennsylvania Academy of Ophthalmology and Otolaryngology has announced the following officers for 1947: Drs. Gilbert L. A. Dailey, Harrisburg, president; James J. Monahan, Shenandoah, president-elect; Benjamin F. Souders, Reading, secretary, and Bruce A. Grove, York, treasurer.

Health Poster Contest Reestablished.—The Medical Society of the State of Pennsylvania through its county medical societies has reestablished the annual health poster contest canceled during the war years. Posters submitted by school children in public, parochial and vocational training schools in the state are to illustrate some phase of preventive medicine or general health as related to the family doctor. They will be judged by each component county medical society, and winning posters will be displayed at the annual session of the society in October 1948. Fifteen county societies have already expressed their willingness to conduct elimination contests.

Pittsburgh

Retires as Editor of Pittsburgh Bulletin.—Dr. Walter F. Donaldson, editor of the *Pittsburgh Medical Bulletin* since 1928, retired following the June 28 issue and will be succeeded in that position by Dr. Norman C. Ochsenhirt.

RHODE ISLAND

State Medical Election.—At the annual meeting of the Rhode Island Medical Society in May Dr. Arthur H. Ruggles, Providence, became president, Drs. Isaac Gerber, Pawtucket, vice president; Joseph C. O'Connell, Providence, president-elect; Morgon Cutts, Providence, secretary, and Charles J. Ashworth, Providence, treasurer.

TEXAS

Narcotic Violation.—Dr. Simon I. Dixon, 106 Pacific, Longview, Texas, was convicted in the State Court of Texas of violation of the "Uniform Narcotic Drug Act of Texas" and on April 14 was sentenced to serve a term of two years in the state penitentiary.

Singleton Memorial Fund.—In honor of the late Dr. Albert Olin Singleton, professor of surgery, the University of Texas Medical Branch, Galveston, a special fund has been created for the support of the work of the surgical department at the university. Contributions to the fund may be sent to the librarian of the University of Texas Medical Branch, Galveston.

New Surgical Society.—This recently organized society "to further and maintain high quality and standards among practicing Houston surgeons, to promote scientific knowledge in surgery and to stimulate advanced training in this specialized field" has elected Dr. Henry A. Petersen president, Dr. George W. Waldron vice president, Dr. Granville Q. Adams secretary and Dr. Thomas H. Compere treasurer.

Personal.—Dr. Charles M. Pomerat, professor of anatomy at the University of Texas Medical Branch, Galveston, has gone to Europe as a representative of the Tissue Culture Committee of the National Research Council to attend the International Cytology Congress in Stockholm and the International Physiology Congress in Oxford. While in England, Dr. Pomerat will spend some time in research at the Strangeways Laboratory, Cambridge, with Dr. Honor B. Fell.

Gift for Student Center Building.—The Southwestern Medical Foundation, Dallas, has received a gift of $100,000 for the construction of a student center building as a memorial to the late J. A. Skillern, founder of the Skillern Drug Stores. The gift was made in the name of Mr. and Mrs. Rae E. Skillern and family and the Skillern organization. In making public his contribution, Mr. Skillern said the grant was given in sincere appreciation of his firm's long and pleasant association with the medical and pharmaceutical professions, to whose service his organization is primarily dedicated. Dr. Edward H. Cary, Dallas, president of the Southwestern Medical Foundation, who was informed of the Skillern gift while in Atlantic City attending the Centennial Session of the American Medical Association, stated that the contribution further evidenced the support Mr. Skillern has always given the foundation and its

program of advancing medical education and scientific research in the Southwest. "A central student building," he said, "is one of the finest facilities that could be provided for the medical center."

WASHINGTON

Dr. Seelye Appointed Acting Executive Officer.—Dr. Walter B. Seelye, Seattle, has been appointed clinical professor of pediatrics and acting executive officer of the department at the University of Washington School of Medicine beginning July 1. He is a graduate of Harvard Medical School, Boston, and has practiced his specialty in Seattle since 1930.

WEST VIRGINIA

Cancer Control.—The division of cancer control of the state department of health has accepted a total of 1,375 referrals per month, and it is expected that they will increase during the last half of the year. The division has found it impossible to meet the increased cost of hospitalization during the past year. Financial assistance can be extended only to the needy cancer patients who present a good prognosis. The division cannot authorize prolonged hospitalization to incurable cases or assume any financial obligation for treatment or hospitalization of a case until the application has been reviewed and the authorization issued. Services and treatment can be given only at approved treatment centers and tumor clinics. Another source of referral of needy cases has been established through the West Virginia Cancer Society's information centers at Charleston, Clarksburg, Wheeling and Bluefield. The division of cancer control also assists in an educational campaign, aids in establishing tumor clinics and provides tissue diagnostic service for needy cancer patients. A binder of cancer bulletins, compiled by the committee on cancer of the Illinois State Medical Society and purchased by the division in West Virginia, will be distributed to all doctors in this state. This literature may be obtained without charge by writing to the Division of Cancer Control, State Department of Health, Charleston.

WISCONSIN

Society News.—At the recent annual meeting of the Wisconsin State Urological Society at Madison Drs. Sidney J. Silbar was elected president, N. Warren Bourne vice president and Charles R. Marquardt secretary-treasurer, all of Milwaukee.

Stovall Award Created by Cancer Society.—The creation of a special award honoring Dr. William D. Stovall, president-elect of the Wisconsin State Medical Society, director of the State Laboratory of Hygiene and former president of the Wisconsin Division of the American Cancer Society, was recently announced by the state division of the society and its lay organization, the Field Army. The award of $250 will be given annually to a Wisconsin resident student at the University of Wisconsin whose primary academic interest is related to cancer. The grant is created as a tribute to Dr. Stovall for many years of faithful service to the organization and in recognition of his accomplishments in developing a public consciousness of malignant growths. The first award was made at a dinner in Madison on May 26 to Mr. Myrton C. Rand, a veteran enrolled in biochemistry.

PUERTO RICO

The Hospital Program.—The financial program recommended by the planning board of Puerto Rico, now approved by the governor and the insular legislature, contemplates an investment of $36,450,000 in new hospitals during the next five years. The hospital survey and construction act, which has been extended to this territory for the construction and enlargement of public and private hospitals, will eventually give Puerto Rico a total appropriation of $12,150,000 over a period of five years. To qualify for this aid the insular government and nonprofit institutions in Puerto Rico would have to provide not less than $24,300,000, according to the financial program. In recommending its program the planning board of this island left a margin of $3,785,000, or 30 per cent of possible federal aid, to be utilized by nonprofit institutions in the construction of new hospital facilities. Allocations of insular funds amounting to $18,230,000 for a five year program to qualify for federal aid is being recommended. Of this amount the legislature voted enabling acts in 1945 and 1946 amounting to $7,165,500. During the current regular session of this body appropriation bills have already been approved to provide the remainder of these insular funds.

GENERAL

Seek Funds to Place Bust in Hall of Fame.—The Society of Tropical Medicine is seeking funds to place the bust of Walter Reed, who led the successful battle against yellow fever, in the Hall of Fame at New York University, to which he was elected Nov. 1, 1945. The university does not have the necessary financial resources. The cost of this work is fixed at $6,000.

Traffic Deaths in Four Months.—In a report on traffic deaths, the National Safety Council, Chicago, said that the death toll was 9,250 for the first four months of 1947. For the four months, the largest city with no traffic deaths was New Bedford, Mass., with a population of 110,300. The second largest was Schenectady, N. Y. (87,500), and Quincy, Mass., (75,800) was third. As the nation enters the vacation season, safer walking and driving were urged by the Council.

American Physiotherapy Association.—This association will hold its annual conference at the Asilomar, Pacific Grove, Calif., July 6-12. Functional anatomy will be under discussion Wednesday, Thursday and Friday with Dr. Verne T. Inman, University of California, San Francisco; Dr. Charles L. Lowman, Orthopaedic Hospital, Los Angeles; Irving Rehman, Ph.D., University of Southern California, and Signe Brunnstrom, M.A., A. P. A., as speakers.

French Periodicals Available for Distribution.—The cultural services of the French embassy have received a collection of recent French periodicals on medical topics intended for free distribution to certain centers throughout the United States, preference being given to college and research libraries, public libraries and special reviews. The number of copies is limited, and requests will be filled in the order in which they are received. A list of available publications will be sent on written request, which should be addressed to Librarian, French Embassy, Cultural Services, 934 Fifth Avenue, New York 21.

World Health Organization.—The Interim Commission has appointed Dr. Thorstein Guthe, formerly assistant to the surgeon general of public health of Norway, to the secretariat as a specialist in venereal disease. Dr. Guthe, a graduate of the University of Oslo, has studied also in London, Paris and Rochester, Minn., and recently completed a year's study at Johns Hopkins University School of Hygiene and Public Health as a fellow of the Rockefeller Foundation. The Committee on Tuberculosis of the association will meet July 30 in Paris; among those on the committee will be Dr. Herman Hilleboe, Washington, D. C., assistant surgeon general, U. S. Public Health Service.

The first meeting of the Expert Committee on Biological Standardization was in Geneva, Switzerland, June 9. The committee is seeking to assure more effective treatment of disease through the use of drugs, serums and vaccines of tested and uniform value. Among those on this committee is Dr. Milton V. Veldee, chief, Biologics Control Laboratory, National Institute of Health, Bethesda, Md.

Special Society Elections.—The new officers of the New England Dermatological Society are Drs. Francis M. Thurmon, Boston, president; Francis P. McCarthy, Boston, vice president; G. Marshall Crawford, Brookline, Mass., secretary, and Mildred L. Ryan, Brockton, Mass., treasurer.——At the recent meeting of the American College of Physicians, Dr. Walter W. Palmer, professor of medicine, Columbia University College of Physicians and Surgeons, New York, was chosen president. Drs. Reginald Fitz, Boston; Francis G. Blake, New Haven, Conn., and Charles T. Stone, Galveston, Texas, were chosen vice presidents.——At the annual meeting of the Medical Library Association, Cleveland, May 27-29, Mrs. Eileen R. Cunningham, Vanderbilt University Medical Library, Nashville, Tenn., was elected president; Miss Janet Doe, New York Academy of Medicine Library, New York, vice president; Dr. Howard Dittrick, Cleveland Heights, Ohio., director, Dittrick Museum of Historical and Cultural Medicine, honorary vice president; Miss M. Edna M. Poole, librarian, Academy of Medicine, Toronto, Canada, secretary.

Large Increase in Births.—In the first quarter of 1947 about 973,000 births were registered in the United States, according to estimates released by the Office of Vital Statistics, U. S. Public Health Service. This is 46.5 per cent more than the 664,000 births estimated to have been registered in the first three months of 1946, and 29 per cent more than the number recorded in the first quarter of 1943, the year which held the previous record number for births. Deaths in this country are estimated to have totaled 388,000 in the first three months of 1947, the same estimated number as that for the

first quarter of 1946. The mild epidemic of influenza and other respiratory infections in 1946 increased the number of deaths in January over the number recorded in nonepidemic years. In 1947 influenza increased in March. The provisional death rate for March was higher than for March in any year since 1943. For the first quarter of 1947 the death rate on a cumulative basis was 11.0, or 0.1 per cent less than the comparable rate of 11.1 death per thousand of population (excluding the armed forces overseas) for the first quarter of 1946.

Prevalence of Poliomyelitis.—Reports of cases of poliomyelitis for the periods indicated have been received from the division of public health methods, U. S. Public Health Service as follows:

Division and State	Week Ended June 21, 1947	Week Ended June 22, 1946	Week Ended Median, 1942-1946	Total to June 21, 1947	Total to June 22, 1946	Total * Mar. 16-Mar. 17-June 21, 1947	Total * Mar. 16-Mar. 17-June 22, 1946
New England:							
Maine	0	0	0	6	2	3	2
New Hampshire	0	0	0	5	7	1	1
Vermont	0	0	0	0	7	0	3
Massachusetts	0	0	0	9	7	1	3
Rhode Island	1	0	0	4	0	2	0
Connecticut	1	2	2	7	12	4	4
Middle Atlantic:							
New York	4	7	7	75	89	39	56
New Jersey	1	4	1	18	16	10	10
Pennsylvania	0	1	1	18	28	4	16
East North Central:							
Ohio	2	2	2	18	39	8	17
Indiana	2	2	0	29	14	4	9
Illinois	5	12	5	42	48	20	40
Michigan	1	0	1	35	12	11	4
Wisconsin	0	1	0	24	15	9	2
West North Central:							
Minnesota	4	1	1	21	11	10	10
Iowa	1	1	0	16	25	6	16
Missouri	0	1	1	21	14	11	7
North Dakota	2	2	0	16	3	13	3
South Dakota	0	0	0	3a	2	0	0
Nebraska	2	1	0	24	3	17	2
Kansas	0	7	1	19	29	1	24
South Atlantic:							
Delaware	0	0	0	1	1	1	1
Maryland	1	0	0	10	4	4	2
Dist. of Columbia	0	0	0	3	1	1	0
Virginia	0	0	0	15	9	5	3
West Virginia	0	1	0	4	7	0	4
North Carolina	1	4	1	29	29	5	27
South Carolina	0	1	1	4	10	3	7
Georgia	2	4	1	13	21	6	15
Florida	0	34	1	65	201	29	212
East South Central:							
Kentucky	1	2	1	13	16	12	13
Tennessee	1	0	1	17	12	5	3
Alabama	2	16	3	22	91	9	68
Mississippi	0	4	2	22	35	5	16
West South Central:							
Arkansas	1	1	2	19	19	6	7
Louisiana	1	8	7	29	59	11	49
Oklahoma	0	5	3	16	29	5	21
Texas	3	44	39	66	240	41	212
Mountain:							
Montana	0	0	0	2	21	0	7
Idaho	0	0	0	13	0	3	0
Wyoming	1	0	0	4	1	1	0
Colorado	5	11	2	15	57	9	26
New Mexico	0	3	0	5	14	2	13
Arizona	2	0	0	11	6	8	3
Utah	0	1	1	5	9	0	3
Nevada	0	0	0	0	0	0	0
Pacific:							
Washington	6	2	0	22	53	14	20
Oregon	1	1	0	9	5	4	1
California	25	18	9	213	197	104	110
Total	76	204	...	1,121†	1,579†	533	1,112
Median, 1942-1946	...	...	185	904		502	

* Last two columns show reported incidence since approximate seasonal low week (week ended between March 15 and 22).
† Figures changed by corrected reports.

Association for the Study of Internal Secretions.—This organization has announced the following awards: The Squibb Award for 1947 has been conferred on Dr. Carl F. Cori and Gerty T. Cori of Washington University, St. Louis, for contributions on the role of hormones in metabolism. The interrelation of hormones and enzymes has been brought into the realm of quantitative chemistry by their brilliant investigations. Dr. Cori was also recently awarded the Intermediate Research prize of $5,000 for distinguished achievement in the field of human metabolism by the National Science Fund of the National Academy of Sciences (THE JOURNAL, May 31, p. 473). The Ciba Award for 1947 has been given to Choh Hao Li, Ph.D., of the University of California for his contributions in the separation of hormones of protein nature and the isolation of the growth and adrenocorticotrophic hormones in purified form. The Ayerst, McKenna and Harrison Fellowship for 1947 is awarded to Dr. Samuel Dvoskin of Columbia University College of Physicians and Surgeons, New York, to enable him to continue his studies on the thyroid gland and thyroid hormone assays at Columbia University.

National Board Announces Policy.—The American Board of Obstetrics and Gynecology, in annual session at Pittsburgh June 1-7, announced the following statement of policy: "It was never intended by this board that certification should be required by any hospital as a prerequisite to appointment in various staff positions, even though certification or its full equivalent is considered a desirable requisite to appointment in key positions, as on the senior or chief staff, especially of hospitals expecting to conduct approved services for training of residents.

"This board does not subscribe to any hospital or medical school rule that certification is to be required for medical appointments in ranks lower than chief of senior staff of hospitals, or associate professorship in schools of medicine, for the obvious reason that such appointments constitute desirable specialist training."

The board also adopted certain changes in regulations as follows:

"Candidates will be hereafter required to present not merely a fundamental knowledge of both branches of the specialty but evidence of actual adequate training in obstetrics and gynecology. . . . Credit for graduate courses in the basic sciences which involve laboratory and didactic teaching rather than clinical experience or opportunities will be given credit for the time spent up to a maximum period of not more than six months regardless of the duration of the course."

CORRECTIONS

Charles R. Glenn.—The award of the Legion of Merit noted in THE JOURNAL, June 28, page 809, was to Brigadier General Charles R. Glenn rather than to Brigadier General Thomas R. Glenn. General Glenn entered the military service May 3, 1917.

International Spanish Speaking Physicians.—The address of the general secretary of this group, Dr. William B. P. McDonough, is 1065 Lexington Avenue, New York, rather than 161 East 81st Street, as mentioned in THE JOURNAL, June 14.

Marriages

HENRY FURMAN HALL JR., Columbia, S. C., to Mrs. Ruby Wright Wilson of Fort Bragg, N. C., January 24.

ALBERT LANHAM ALLEN, Knoxville, Tenn., to Miss Julia Hodgkin Winn in Orangeburg, S. C., March 4.

GEORGE V. TETER JR., Fort Wayne, Ind., to Miss Mildred Bradshaw of Carbon in Brazil January 18.

JOHN VARDAMAN GWIN to Mrs. Sue McQuiddy Bauman, both of Chattanooga, Tenn., Dec. 14, 1946.

LOUIS DONALD TELLERMAN, Chicago, to Miss Nancy Carolyn Bearden of Charlotte, N. C., Dec. 7, 1946.

THEODORE TILGHMAN HERRING to Miss Jean Corbett Brunson, both of Wilson, N. C., January 11.

HORACE D. ATKINSON to Mrs. Pauline H. Hildebrand, both of Lakeland, Fla., in February.

THOMAS MONROE WILEY JR. to Miss Jane Hearon, both of Birmingham, Ala., March 13.

QUENTIN P. HAMILTON, Detroit, to Miss Josephine Warner of Davison, Mich., recently.

WILLIAM A. GRABER to Miss Loretta Jane Stapleton, both of Chicago, March 17.

MORRIS GOTTLIEB to Miss Theo Dunkelman, both of Atlanta, Ga., January 19.

MAX WEIS JR. to Miss Bettie Schwab, both of Memphis, Tenn., January 5.

JAMES A. VALOVE to Miss Ethel Fielder, both of Atlanta, February 4.

Deaths

Frank Dwyer, Bellingham, Wash.; College of Physicians and Surgeons, Baltimore, 1913; member of the American Psychiatric Association; veteran of the Spanish-American War and World War I; served at various times as clinical director and assistant superintendent of veterans' hospitals in Philadelphia, Coatesville, Pa., Northampton, Mass., Kecoughton, and Roanoke, Va., and Togus, Maine; served on the staffs of the East Louisiana State Hospital at Jackson, La., Mendocino State Hospital in Talmage, Calif., state hospitals at Warm Springs, Mont., Yankton, S. D., Fort Steilacoom and the Northern State Hospital in Sedro-Woolley, Wash.; died March 30, aged 67, of chronic myocarditis and arteriosclerosis.

Edward Boynton Angell ● Rochester, N. Y.; University of Pennsylvania Department of Medicine, Philadelphia, 1881; in 1908 member of the House of Delegates of the American Medical Association; a founder and past president of the Rochester Academy of Medicine; served as vice president of the American Neurological Association and the Medical Society of the State of New York; member of the Association for Research in Nervous and Mental Diseases; on the honorary medical staff of the Rochester General Hospital and on the staff of the State Hospital; died in the Julia L. Butterfield Memorial Hospital, Cold Spring, April 23, aged 90, of cerebral hemorrhage.

Alfred Morrell Bidwell ● Tampa, Fla.; Columbia University College of Physicians and Surgeons, New York, 1915; Army Medical School, 1918; vice president of the Hillsborough County Medical Society; past president of the Florida Association of Industrial Surgeons; formerly instructor in surgery at his alma mater and attending surgeon at the Vanderbilt Clinic in New York; served in France during World War I and later as a captain in the regular army; at one time assistant surgeon in the U. S. Public Health Service; on the staffs of St. Joseph's Hospital and the Tampa Municipal Hospital, where he died April 12, aged 58, of coronary occlusion.

Arthur Warren Hayes ● Greenfield, Mass.; Middlesex College of Medicine and Surgery, Cambridge, 1920; specialist certified by the American Board of Radiology; member of the New England Roentgen Ray Society, Radiological Society of North America and the American College of Radiology; for many years member and chairman of the board of health; an associate examiner for the draft board during World War II; on the staffs of the Franklin County Hospital in Greenfield and the Farren Memorial Hospital in Montague City, where he died March 11, aged 56, of cerebral hemorrhage.

Frances Morton Allen, San Diego, Calif.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1896; member of the American Medical Association; for many years on the staff of St. Joseph's Hospital, now known as the Mercy Hospital; formerly a member of the city board of health; at one time practiced in Chicago, where she had been on the faculty of the College of Physicians and Surgeons and on the staff of the Lakeside Hospital; died April 13, aged 79, of burns received when her clothes ignited as she attempted to light a stove.

Zachry Martin Absheer, Hazard, Ky.; Hospital College of Medicine, Louisville, 1902; on the staff of the Hazard Hospital; died in the Veterans Hospital in Louisville April 20, aged 73, of arteriosclerosis.

William Carlton Adams, East Taunton, Mass.; Baltimore Medical College, 1896; died March 29, aged 71, of arteriosclerotic heart disease.

Alfred L. Arnold, Owosso, Mich.; Detroit College of Medicine, 1886; member of the American Medical Association; served as mayor; on the staff of the Memorial Hospital; formerly president of the State Savings Bank; died April 19, aged 89, of cerebral hemorrhage.

John Louis Asselin, Detroit; Detroit Homeopathic College, 1906; member of the American Medical Association; for many years on the staff of the Grace Hospital, where he died February 24, aged 67.

Porter Guy Bowen ● San Antonio, Texas; University of Texas School of Medicine, Galveston, 1919; died February 12, aged 55, of cirrhosis of the liver.

William Walker Brandau, Dallas, Texas; Jefferson Medical College of Philadelphia, 1900; member of the American Medical Association; died February 4, aged 75, of intestinal obstruction.

Martin T. Brewer, Des Moines, Iowa; Rush Medical College, Chicago, 1896; served during World War I; major, medical reserve corps, not on active duty; formerly mayor of De Soto, where he had been president of the board of education; died March 27, aged 74, of arteriosclerosis.

Frank H. Carlisle, Italy, Texas (licensed in Texas under the Act of 1907); member of the American Medical Association; died February 8, aged 77, of injuries received when the automobile in which he was driving was struck by a train.

Stark Outtlaw Cherry, Pittsburgh; Temple University School of Medicine, Philadelphia, 1910; died recently, aged 64, of coronary occlusion.

Lemuel E. Clark, Otsego, Mich.; Jefferson Medical College of Philadelphia, 1881; formerly village president and health officer; served on the staffs of the Highland Park (Mich.) General Hospital and the William Crispe Hospital in Plainwell, where he died March 15, aged 91, of senility.

Thomas Alonzo Clark, Memphis, Tenn.; Memphis Hospital Medical College 1907; died in St. Joseph Hospital March 31, aged 66, of intestinal obstruction and strangulated right inguinal hernia.

Robert Clanton Curtis, Calera, Ala.; Memphis (Tenn.) Hospital Medical College, 1901; member of the American Medical Association; local surgeon for the Louisville and Nashville Railroad Company; died in Sylacauga March 24, aged 76, of uremia.

Irving Taylor Cutter, San Antonio, Texas; Harvard Medical School, Boston, 1907; member of the American Medical Association; fellow of the American College of Surgeons; served during World War I; on the staffs of the Nix and Santa Rosa hospitals; died February 18, aged 67, of coronary thrombosis.

Burr E. Decker, Bradford, N. Y.; University of Vermont College of Medicine, Burlington, 1891; since 1920 health officer of Bradford; died March 21, aged 80, of congestive heart failure.

Charles Leslie Edgar, Cleburne, Texas; Fort Worth School of Medicine, Medical Department of Fort Worth University, 1898; member of the American Medical Association; for many years local physician for the Santa Fe Railway; died in a hospital at Temple February 15, aged 74, of complications following a fractured leg incurred in a fall.

Horace Crandell Embry ● Great Bend, Kan.; University Medical College of Kansas City, Mo., 1909; fellow of the American College of Surgeons; on the staff of St. Rose Hospital; died March 13, aged 68, of heart disease.

Gilbert S. Field, Detroit; Detroit College of Medicine, 1891; member of the American Medical Association; at one time on the faculty of his alma mater; died in Grosse Pointe Park, Mich., March 31, aged 79, of cerebral thrombosis and arteriosclerosis.

Charles C. Finney, Atchison, Kan.; Beaumont Hospital Medical College, St. Louis, 1894; served as mayor of Atchison and member of the city council; on the staff of the Atchison Hospital; died in Topeka, March 23, aged 82, of arteriosclerosis.

G. Theodor Fischer, New York; Universität Leipzig Medizinische Fakultät, Saxony, Germany, 1890; died March 8, aged 82, of arteriosclerosis.

Hugh Francis Fisher, Denver; the Hahnemann Medical College and Hospital, Chicago, 1884; University Medical College of Kansas City, 1905; died March 29, aged 84, of cirrhosis of the liver and adhesive pericarditis.

Gustav Henry Frederick, Newark, N. J.; College of Physicians and Surgeons, Baltimore, 1900; died in St. Mary's Hospital, Orange, March 18, aged 74, of chronic myocarditis, nephritis and arteriosclerosis.

Alexander Rutherford Freeman ● Albany, Ga.; Emory University School of Medicine, Atlanta, 1929; interned at the Wesley Memorial Hospital, Emory University; formerly resident physician at the Peter Bent Brigham Hospital in Boston; on the staff of the Phoebe Putney Memorial Hospital; died March 29, aged 42, of cerebral hemorrhage.

George Hartley Gorham, Boston; Tufts College Medical School, Boston, 1903; member of the American Medical Association; died March 12, aged 76, of bronchogenic carcinoma.

William G. Hodges ● Malvern, Ark.; American Medical College, St. Louis, 1912; president and formerly secretary of the Hot Springs County Medical Society; served as president of the state board of health, of which he had long been a member; for many years city health officer; died in St. Vincent's Hospital in Little Rock, March 22, aged 68, of cerebral hemorrhage.

Abby Virginia Holmes, Omaha; the Hahnemann Medical College and Hospital, Chicago, 1899; died March 1, aged 76, of hypostatic pneumonia.

George L. Hubbell, Stamford, N. Y.; College of Physicians and Surgeons, Baltimore, 1894; served as county coroner and on the staffs of the Aurelia Osborn Fox Memorial Hospital in Oneonta and the Bathgate Hospital, where he died March 17, aged 75, of cerebral hemorrhage.

David Oliver King, Waterloo, Iowa; St. Louis College of Physicians and Surgeons, 1909; died February 22, aged 67, of coronary occlusion.

Eli Abraham Kusel ● Oroville, Calif.; Cooper Medical College, San Francisco, 1895; served as city health officer and for many years as district surgeon for the Western Pacific Railroad; died March 19, aged 72, of arteriosclerotic heart disease and hypertension.

Burdette Dudley La Force, Pasadena, Calif.; Rush Medical College, Chicago, 1893; fellow of the American College of Surgeons; died March 13, aged 77, of coronary thrombosis.

Charles Fred McBurney, Altoona, Pa.; Jefferson Medical College of Philadelphia, 1897; formerly secretary of the Blair County Medical Society; served as a member of the board of health and on the examining board of the Selective Service during World War I and II; member of the staff of the Altoona Hospital, where he died March 18, aged 72, of heart disease.

John Hostain McNutt, Hammond, Ill.; Missouri Medical College, St. Louis, 1895; served as county coroner; died March 12, aged 77, of cerebral hemorrhage.

Harry Markowitz ● Bellevue, Pa.; Jefferson Medical College of Philadelphia, 1924; served during World War I; affiliated with the Suburban General Hospital, where he died March 19, aged 50, of heart failure.

Herbert S. Martyn ● Cuttingsville, Vt.; Baltimore Medical College, 1898; past president of the Rutland County Medical Society; served as health officer and school director; on the courtesy staff of the Proctor (Vt.) Hospital, where he died March 14, aged 75, of carcinoma of the pylorus.

Joseph V. Maucher, Carrolltown, Pa.; College of Physicians and Surgeons, Baltimore, 1885; died March 28, aged 81, of coronary occlusion.

Ezra Gecovia Maxwell, Lexington, Tenn.; University of Tennessee Medical Department, Nashville, 1900; member of the American Medical Association; served during World War I; formerly on the staff of various veterans' hospitals; died in the Doctors' Hospital in Jackson, March 20, aged 67, of congestive heart failure and arteriosclerosis.

David John Moore, Dexter, Kan.; University Medical College of Kansas City, 1892; member of the American Medical Association; on the staff of the Newton Memorial Hospital in Winfield, where he died March 11, aged 82, of aneurysm.

Josiah George Moore ● Pomona, Calif.; St. Louis Medical College, 1889; an Affiliate Fellow of the American Medical Association; fellow of the American College of Surgeons; member of the Missouri State Medical Association; formerly a member of the state house of representatives from Audrain County, Missouri; died March 4, aged 84, of uremia and arteriosclerosis.

John Alfred Newnham ● West Palm Beach, Fla.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1914; served during World War I; died in the Good Samaritan Hospital March 19, aged 58, of hemorrhage and arteriosclerosis.

Harry Schuyler Nicholson, Pittsburgh; Hahnemann Medical College and Hospital of Philadelphia, 1896; served on the staff of the Shadyside Hospital; veteran of World War I; died in Winter Park, Fla., March 6, aged 77, of heart disease.

William Blandine Nies, Fort Worth, Texas; Fort Worth School of Medicine, Medical Department of Texas Christian University, 1916; member of the American Medical Association, Texas Public Health Association, American Public Health Association and the Association of Military Surgeons of the United States; director of the Tarrant County Health Unit; died recently, aged 58, of heart disease.

Clifford James Pittman ● Ruleville, Miss.; Memphis (Tenn.) Hospital Medical College, 1911; served during World War I; died March 8, aged 58, of cerebral arteriosclerosis.

Alonzo Thomas Powell, Coeymans, N. Y.; Albany Medical College, 1889; died in Albany March 8, aged 85, of generalized peritonitis.

Harry Herman Rich, Newark, N. J.; University of Maryland School of Medicine, Baltimore, 1912; member of the American Medical Association; on the staff of the Beth Israel Hospital, where he died March 15, aged 61, of uremia.

Charles Cogan Rinard ● Homestead, Pa.; Bellevue Hospital Medical College, New York, 1898; past president of the Allegheny County Medical Society; member of the board of directors of the Monongahela Trust Company; on the staff of the Homestead Hospital, where he died March 15, aged 71, of aneurysm.

Laetus Sanders, Commerce, Ga.; University of Georgia Medical Department, Augusta, 1897; served on the board of trustees of the State Hospital at Milledgeville; died March 16, aged 73, of myocarditis with congestive failure.

Philip Skrainka, St. Louis; St. Louis Medical College, 1884; died in the Barnes Hospital March 8, aged 75, of coronary occlusion.

David C. Stahlman, Potwin, Kan.; Kansas City Medical College, 1900; member of the American Medical Association; served as a member of the board of education; died March 6, aged 80, of hypostatic pneumonia following cerebral hemorrhage.

Walter Logan Stephenson, Aline, Okla. (licensed in Oklahoma under the Act of 1908); member of the American Medical Association; died in St. Anthony's Hospital in Oklahoma City February 25, aged 70, of pneumonia following a colostomy.

Ethel B. Stribling, Rolling Fork, Miss.; Memphis (Tenn.) Hospital Medical College, 1901; died in Jackson March 8, aged 68, of heart disease.

James Thurman Strimple ● Erie, Pa.; Jefferson Medical College of Philadelphia, 1912; served during World War I; for many years member of the board of health of Erie; formerly medical director of Erie County; attending surgeon at the Hamot Hospital and an associate member of St. Vincent's Hospital; died March 16, aged 59, of hypernephroma of the right kidney with metastases.

George D. Sturtevant, Cleveland; Homeopathic Hospital College, Cleveland, 1887; member of the Cleveland Academy of Medicine; served during World War I; died in February.

John William Sugden ● Salt Lake City; Rush Medical College, Chicago, 1923; fellow of the American College of Surgeons; lieutenant, medical corps, U. S. Naval Reserve, not on active duty; member of the senior staff of the Holy Cross Hospital; died in Phoenix, Ariz., March 19, aged 50, of congestive heart failure.

Charles Hill Tait, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1906; died in the Mound Park Hospital, St. Petersburg, Fla., March 2, aged 64, of coronary occlusion.

Ira Abraham Tawney, Cleveland; Cleveland Homeopathic Medical College, 1903; died March 1, aged 66, of coronary thrombosis.

Herbert William Todd, Galion, Ohio; Fort Wayne (Ind.) College of Medicine, 1891; member of the American Medical Association; for many years surgeon for the Erie Railroad; director of the First National Bank; died in the Lee Memorial Hospital in Fort Myers, Fla., March 17, aged 75, of empyema of the gallbladder and cardiac decompensation.

Burt Dexter Walker, Kalamazoo, Mich.; University of Michigan Homeopathic Medical School, Ann Arbor, 1894; member of the American Medical Association and the Kalamazoo Academy of Medicine; on the staff of the Borgess Hospital, where he died March 10, aged 74, of carcinoma of the larynx and arteriosclerotic heart disease.

Thomas Weston, Muir, Mich.; Detroit College of Medicine, 1893; died in the Blodgett Memorial Hospital in Grand Rapids, March 15, aged 82, of myocarditis.

Henry Kirke Wilson, Holbrook, Ariz.; Northwestern University Medical School, Chicago, 1890; medical examiner for Selective Service during World War II; formerly affiliated with the Indian Service; died in Winslow recently, aged 73, of cerebral hemorrhage.

Henry Mason Wilson ● Peoria, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1911; served during World War I and as medical examiner for city Selective Service Board number 3 during World War II; on the staffs of the Methodist Hospital and St. Francis Hospital, where he died March 24, aged 59, of influenzal encephalitis and hypertension.

Robert S. Yancey ● Dallas, Texas; Missouri Medical College, St. Louis, 1897; fellow of the American College of Surgeons; member of the staff of the Baylor Hospital; visiting oculist, Parkland Hospital; division oculist, Frisco Railroad and St. Louis and Southwestern Railway; chief oculist, Missouri, Kansas and Texas Railway; chief surgeon, Missouri, Kansas and Texas Railroad Employees' Hospital Association; died February 21, aged 74, of heart disease.

Foreign Letters

PARIS

(From Our Regular Correspondent)

May 31, 1947.

Action of Folic Acid in Chronic Disorders

The substitution in a diet of saccharose for galactose or lactose (glucides of disequilibrium) produces nervous disorders similar to those brought about by B avitaminosis, but not curable either by yeast or by B vitamins. Chauchard, Mazoue and Lecocq have found that in these disequilibriums a diminution of the nervous chronaxia occurs and later an increase of the muscular chronaxia. They have studied the influence of folic acid on those disorders and reported their results at a meeting of the Society of Biology. They also studied the action of ascorbutic acid on the disequilibrium due to glucides. It had no effect on chronaxic disorders accentuated by a diet providing 66 per cent of galactose, but it prevents them in the same way in which folic acid does in an attenuated diet providing 30 per cent of lactose in the rat and the pigeon; in the latter the supplementary factor of the yeasts does not appear necessary any more. These researches demonstrate that folic acid and ascorbutic acid are endowed with a preventive and curative power as regards the chronaximetric disorders in disequilibriums due to glucides, disorders which do not yield to most of the therapies.

Venereal Disease in France

The Bulletin of Epidemiologic Information of the Ministry for Public Health for February 1947 gives the following figures on venereal morbidity during the last two years:

Number of Cases Declared for Each Quarter

	Blennorrhagia		Primary and Secondary Syphilis		Fungating Chancre	
	1945	1946	1945	1946	1945	1946
First quarter	8,789	8,211	3,889	5,480	195	283
Second quarter	8,333	7,799	2,655	4,141	209	203
Third quarter	10,225	7,257	3,514	3,837	209	286
Fourth quarter	9,880	6,868	3,797	3,942	632	136
Totals	34,227	29,135	13,854	17,410	1,485	1,858

Note the decrease of the fungating chancre from 632 cases in the fourth quarter of 1945 to 136 for the same period of 1946. The 1945 increase was due to the influx of North Africa troops. The figures concerning syphilis and blennorrhagia are very high, four times prewar. A slight decline of the cases of blennorrhagia during the fourth quarter of 1946 is due to penicillin having been put at the disposal of practitioners. Some patients have been treated privately and have not been reported, the compulsory declaration of venereal diseases by private doctors being not yet adhered to by all practitioners. The closing of brothels, effected during 1946, has not yet appreciably modified the venereal morbidity. It is estimated in competent circles that, owing to the antivenereal action, the decreasing of the curve should accentuate in 1947.

The League of Red Cross Societies

The Red Cross Societies met in Paris May 21-23 at the International Office of Hygiene under the presidency of Mr. Basil O'Connor, chairman of the Executive Committee; thirty International Red Cross societies were represented, among which were the American National Red Cross, represented by J. T. Nicholson; the Alliance of the Red Crescent Societies of U. S. S. R., by Drs. Zabolotzkaya and Petrowsky, the British Red Cross by Sir John Kennedy, Mr. Hope and other personalities, and the French Red Cross by Ambassador Bargeton, Mr. Truchis de Varenne and others. A conference to take place in Belgrade and designed to assist the war victims of this region has been decided on; also a conference for the revision of the existing convention of Geneva with a view to wartime protection of the civil population. This question will also be placed on the agenda of an international Red Cross conference which is being prepared. As regards the transfer of the head office of the Red Cross, which was in Paris in prewar time and in Switzerland during the war, the question is still under study.

Ten Years of Anti-Scorpion Serum Therapy

At a recent meeting of the National Academy of Medicine, Professor Pasteur Vallery-Radot presented a communication from E. Sergent of the Pasteur Institute of Algeria on the result of ten years (1936 to 1946) of application of anti-scorpion serum therapy. There are fifteen kinds of scorpions in northern Africa, the most dangerous of them being Prionuris australis. For the preparation of anti-scorpion serum, horses submitted to malleinization and vaccinated against tetanus are used. Only the venom of Prionuris australis is used, the serum thus obtained being equally efficient against other northern Africa scorpion venoms. Without treatment, death generally occurs within two to twenty-four hours after the patient has been stung; if symptoms are at once serious, serum is to be injected as soon as possible (before the fourth hour). The doses are 20 cc. subcutaneously or intravenously for adults and 30 to 50 cc. for children, who are more responsive to the venom than adults. In alarming cases several hundred cubic centimeters of isotonic solution of sodium chloride is to be injected simultaneously in another part of the body. The author used serum in 2,209 cases. Out of 531 hopeless cases (134 were at the very point of death), 472 were cured. Protracted toxic phenomena being liable to occur, patients should be kept under observation for several hours and the treatment resumed should toxic symptoms reappear.

Personal

Elected as foreign correspondents to the National Academy of Medicine, second division (surgery, obstetrics, surgical specialties) were Allen Whipple, Wilder Benfield (New York), Sir Webb-Johnson (London), and Brouha (Liège).

BUENOS AIRES

(From Our Regular Correspondent)

April 15, 1947.

Surgeons Meet in Montevideo

At the Inter-American Congress of Surgery in Montevideo, more than five hundred surgeons of this continent were present. Dr. Alton Ochsner of New Orleans was especially invited. One of the official topics was "Fractures of Pelvis—Treatment and Complications." Drs. Giola, Jorge, Caffardo, Surraco and Lockhardt were speakers. Dr. Ramón Grau San Martin, the president of Cuba, sent an article on "Experimental Diet in Cancer," which was read by Dr. Antonio Glerch Rius, the head of the Instituto de Higiene of Havana.

Price of Drugs

Information given by the authorities on public health shows that the price of about one hundred and seventy-three specific drugs has been reduced in price. The authorities made studies on the expenses of production, showed the results of these studies to the manufacturers and asked them to establish more reasonable prices.

Women in Argentine Universities

Of a total of 21,052 students in universities at the end of 1945, there were 3,030 women. Medicine or its branches is studied by 1,373 at the Faculty of Medical Sciences of Buenos Aires.

New Medical Society

The Sociedad Argentina de Patologia Infecciosa y Epidemiologia was recently established. The president, vice president and general secretary are Drs. Julio Méndez, Carlos Fonso Gandolfo and Julio Hansen, all of Buenos Aires.

Correspondence

CONSTITUTIONAL APPROACH IN THE TREATMENT OF MALE INFERTILITY

To the Editor:—In THE JOURNAL, January 18, in an attempt to forestall useless endocrine therapy where it is not indicated, I wrote on "Endocrine Therapy in Male Sterility of Nonendocrine Origin Valueless." In THE JOURNAL, May 24, Dr. Laman A. Gray apparently took exception to my conclusion, terming it a "nihilistic point of view." Obviously Dr. Gray is a bit confused, since he writes that ". . . Dr. Abner I. Weisman indicated in a communication to the editor that no endocrine therapy was of any value in the treatment of male sterility." If my critic will reread the original correspondence carefully, he will find that I laid particular stress on the inefficacy of endocrines in male sterility of nonendocrine origin.

Secondly, where glandular therapy is indicated and of proved worth I strongly urge its use. On page 234 of my monograph Spermatozoa and Sterility (New York, Paul B. Hoeber, Inc., 1941) one will find the following statement: "In cases where the basal metabolic rate is low, the administration of thyroid gland extract, together with constitutional treatment, has restored fertility to many patients." Certainly, in view of our progress in this field, no thinking physician would preclude thyroid therapy from the individual of hypothyroid tendency who manifests spermatozoal inadequacy. In fact, thyroid extract, of all the endocrine substances, does offer some males their only ray of hope in the glandular approach to therapy.

Since 1942 and in his recent communication to THE JOURNAL, Dr. Gray appears to be highly enthusiastic of the value of gonadotropic substances (particularly equine gonadotropin, gonadogen, Upjohn) in male infertility. He reports better than 50 per cent improvement with this substance. Most investigators unhesitatingly resort to the use of gonadotropic hormones in youths and adolescents with undescended testes, hypogonadism and juvenile Froelich's syndrome. On the other hand, these same authorities (and the list of names is too long to include) have had little effect in the relatively infertile male adult with any of the gonadotropic substances. In fact, back in 1940 I conducted a controlled series of experiments with subnormal males using the same commercial product as did Dr. Gray, which was supplied to me in large quantities by the same manufacturers, and found no definite improvement in semen counts, aside from the variable transient rises and falls which are normally found in semen counts. Therapy with gonadogen was disappointing.

Thirdly, I should like to point out at this time that much can be done to improve the semen output of the male who is of lowered fertility. The outlook for the male whose fertility is not within the normal range is not too depressing if the physician handling the case will treat the individual as a constitutional entity. In supervising the "husband regimen" of hundreds of males and personally analyzing their semen specimens, I am happy to state that there is improvement in spermatozoal output in practically every instance if the patient abides conscientiously by his physician's advice. In treating the male as a constitutional individual rather than as a man who simply possesses testes, most incredible results are obtained. Every effort should be made first to ascertain any underlying physical defect. Similarly, the physician should delve into the patient's psychologic make-up. His general health, his overwork, his lack of rest or sleep, his nervous exhaustion, his improper diet, his mode of life, his occupation, his frequency of sexual relationship—all should be gone into.

A "husband regimen" devised along the lines of improving that particular individual should be worked out. He should be advised concerning his diet—the type of food, the method of cooking his food, the vitamin and mineral-containing foods, and so on. He should be informed about the need for a well regulated mode of living—hours of sleep, proper amount of rest and relaxation, avoidance of excessive physical or emotional strains. He should be told of the deleterious effect of excessive coitus, of excessive uses of alcohol, of overindulgences in general. In essence, the patient who desires to increase his chances of impregnation should be told to care for himself in much the same way as an experienced animal husbandryman cares for a prize bull or sire. There is no question of doubt that in all the laws of breeding the individual who is the most normal and healthy will be able to produce the very best sperm output that he, as an individual, can manufacture.

If the physician treating marital infertility will stress the importance of the constitutional factors in relation to fertility he will find that he will be obtaining a far greater percentage of pregnancies than the one or two which Gray reported in 1942 following the use of gonadogen.

ABNER I. WEISMAN, M.D., New York.

CRUSH SYNDROME

To the Editor:—In reference to the paper by Drs. Corcoran and Page (THE JOURNAL, May 31) it might be of interest to note that during the investigations carried out by the United States Strategic Bombing Survey in Germany in the recent war cases of crush syndrome were encountered in every German city that had been bombed (The Effect of Bombing on the Health and Medical Care in Germany, U. S. Strategic Bombing Survey, War Department, Washington, D. C., Oct. 30, 1945). Thus, one pathologist in Hamburg saw 50 cases in his hospital alone. German scientists referred to the syndrome as decompression shock (entlastungskollaps). It is noteworthy that in several instances victims of crushing injuries were reported to be at home or in hospitals for several days before the signs and symptoms of shock appeared. German air defense medical officers estimated that the mortality of this condition throughout Germany was around 90 per cent and that the remainder recovered without permanent damage to their kidneys. As a matter of fact, most clinicians interviewed were surprised how quickly kidney function returned to normal in some patients with the crush syndrome.

FRANZ K. BAUER, M.D., Los Angeles.

SMALLPOX VACCINATION

To the Editor:—I have your letter asking about a statement made by Walter Winchell that there had been more deaths from vaccination than from smallpox. When Winchell made this statement, he emphasized the fact that it was entirely unofficial. You realize, of course, that in any undertaking as extensive as that of vaccinating over 6,000,000 people, there are bound to be rumors. In New York City there are some 200 deaths a day. Obviously, some of these deaths must occur in people who were recently vaccinated, since practically the entire population of the city was vaccinated. Some people were confusing "death following vaccination" with "death on account of vaccination."

Dr. Rivers feels that a diagnosis of death due to post vaccinal encephalitis cannot be confirmed unless there has been an examination of brain tissue. In 2 cases in which such a diagnosis had been made, autopsy revealed entirely different causes of death.

There have been a number of cases of serious illness and a few deaths which physicians thought might be related to the vaccination. A careful investigation has been made of each case. To date we have no evidence of any death due to vaccination. We shall continue to investigate every case that is brought to our attention.

ISRAEL WEINSTEIN, M.D.
Commissioner of Health, City of New York.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Pardon Does Not Restore Right to Practice Medicine.—The defendant was convicted of practicing medicine without a license, the information charging him with making a diagnosis of one Lewis Janczak as having kidney trouble, with prescribing for said supposed kidney trouble a large quantity of distilled water and with maintaining an office equipped with stethoscope, blood pressure apparatus, examining table, sterilizing cabinet and other equipment. From such conviction, which was affirmed by the Appellate Court, the defendant appealed to the Supreme Court of Illinois.

Among other contentions, the defendant claimed a right to practice medicine because he had been given a pardon by the governor for a prior conviction of manslaughter. It was argued that this restored his rights of citizenship which the conviction had forfeited, including the right to practice medicine. No authorities, said the Supreme Court, are cited by either side as to the effect of a pardon on the rights of a person to engage in a profession, which rights had been forfeited by a prior conviction, nor have we found that the point has been passed on in this state. Two prior Illinois cases have held that an attorney might be disbarred because of conviction of crime involving moral turpitude, notwithstanding the granting of a pardon prior to the institution of disciplinary proceedings. The question of restoration by pardon was not involved, however. In a Florida case, the Supreme Court continued, it was held that an attorney at law was not restored to the right to practice law because he had been pardoned for the offense which had resulted in his being disbarred; and a Washington case held that the pardon of a physician does not restore the right to practice medicine, although it purports to restore all rights and privileges forfeited by the conviction. In the latter case, the court said, "There is a wide distinction between the right which one, whether felon or free, has to hold his own property against the world, and deny even the state the right to take it from him without compensation therefor, and that other right to practice a profession which demands peculiar qualifications in order to protect the public, and requires a license." If a pardon had the effect claimed by the defendant, many persons who have obtained divorces because their spouses had been convicted of a felony would find themselves in an embarrassing position. We are satisfied, the Supreme Court concluded, such pardon does not have the effect claimed by the defendant. Accordingly the judgments of the County and Appellate courts were affirmed.—*People v. Ronpetti, 70 N. E. (2d) 568 (Ill., 1946).*

Malpractice: Death Resulting From Allergy to Ether.—The plaintiffs sued for damages for the death of their daughter, which occurred while she was under an anesthetic during an operation being performed by the defendant physician. From a judgment for the defendant, the plaintiffs appealed to the Supreme Court of Washington.

The defendant physician had advised the plaintiffs that their child's visual defect could be remedied only by a surgical operation, so they took the child to the hospital for such purpose. She was given the usual preoperative tests and taken into the operating room at 10:30 the following morning. The anesthetic, ether, was administered by a nurse anesthetist in the employ of the hospital. The defendant commenced the operation at 10:45 a. m. Nothing untoward occurred until approximately 12:10 p. m., when both the defendant and the nurse noticed that the child had become cyanotic, that is, had taken on a bluish discoloration indicating a stoppage of breathing. The defendant immediately stopped the operation and began efforts to resuscitate her. Other doctors were called in to assist, but all efforts were in vain. An autopsy later revealed that the death was caused by an allergy to ether of the child's thymus gland. According to the evidence there is no known test to ascertain the presence of such an allergy prior to the administration of the ether.

The only evidence of negligence which the plaintiffs produced was the following testimony by the child's mother: "Q. After the operation and after you were told of the death of Barbara Jean, did you talk to Dr. Dunnavan? A. After a while yes. We called him out. Q. What did you say to him at that time? A. I accused him of being careless, not giving her the proper examination. Q. Did he say anything in answer to your question? A. He says 'You are right, Mrs. Yeager.'" On appeal the plaintiffs contended that the trial court erred in refusing to submit the case to the jury on the basis of the foregoing evidence.

The Supreme Court said "(4) Before a physician or surgeon can be held liable for malpractice he must have done something in the treatment of his patient which the recognized standard of medical practice in his community forbids in such cases or he must have neglected to do something required by those standards. . . . (8) Negligence on the part of the physician or surgeon by reason of his departure from the popular standard of practice must be established by medical testimony." In the instant case, the Supreme Court pointed out, it was not shown that there was any negligence which was the proximate cause of the unfortunate death. Indeed, the evidence shows affirmatively that the death resulted from an independent cause, that is, an allergy, which was unforeseeable. Accordingly the Supreme Court held that the trial court had not erred in refusing to submit the case to the jury and in directing a judgment of nonsuit. Accordingly the judgment in favor of the defendant was affirmed.—*Yeager v. Dunnavan, 174 P. (2d) 755 (Wash., 1946).*

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

BOARDS OF MEDICAL EXAMINERS
BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Examinations of the boards of medical examiners and boards of examiners in the basic sciences were published in THE JOURNAL June 28, page 827.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: *Parts I and II.* September. *Part III.* Durham, Oct. 21-23. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia 2.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF ANESTHESIOLOGY: Part II. *Oral.* Cleveland, Oct. 5-11. Sec., Dr. P. M. Wood, 745 Fifth Ave., New York 22.

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOLOGY: *Part I. Oral.* Chicago, Oct. 24-26. Final date for filing application is Aug. 1. *Part II. Written.* Various centers, Sept. 15. Sec., Dr. G. M. Lewis, 66 E. 66th St., New York 21.

AMERICAN BOARD OF INTERNAL MEDICINE: *Oral.* Chicago, Oct. 8-10. Asst. Sec., Dr. W. A. Werrell, 1 West Main St., Madison 3.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral.* Chicago, May or June. Final date for filing application is Feb. 1. Sec., Dr. W. J. German, 310 Cedar St., New Haven, Conn.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: *Part I. Written.* Various Centers, Feb. 6. Final date for filing application is Nov. 1. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh 6.

AMERICAN BOARD OF OPHTHALMOLOGY: Chicago, October 6-12. Sec., Dr. S. Judd Beach, 704 Congress St., Portland, Me.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: Part II. Chicago, Jan. 22-23. Final date for filing application is Sept. 15. Sec., Col. F. M. McKeever, 1136 W. Sixth St., Los Angeles 14.

AMERICAN BOARD OF OTOLARYNGOLOGY: Chicago, Oct. 7-11. Sec., Dr. D. M. Lierle, University Hospitals, Iowa City, Ia.

AMERICAN BOARD OF PATHOLOGY: Chicago, Oct. 24-25. Final date for filing application is Sept. 15. Sec., Dr. Robert A. Moore, Euclid Ave. and Kingshighway, St. Louis 10.

AMERICAN BOARD OF PEDIATRICS: Dallas, Dec. 5-7. Philadelphia, Jan. 9-11. Sec., Dr. Lee F. Hill, 710 Royal Union Bldg., Des Moines 9.

AMERICAN BOARD OF PLASTIC SURGERY: Examinations are given in April and November of each year in the home town of applicants. Applications should be sent to Sec., Dr. Louis T. Byars, 506 N. Grand Blvd., St. Louis.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: New York, December. Final date for filing application is Sept. 15. Sec., Dr. Francis J. Braceland, 102-110 Second Ave., S. W., Rochester, Minn.

AMERICAN BOARD OF RADIOLOGY: *Oral.* Boston, Nov. 26-30. Final date for filing application is Aug. 1. Sec., Dr. B. R. Kirklin, 102-110 Second Avenue, S. W., Rochester, Minn.

AMERICAN BOARD OF UROLOGY: Chicago, February. Final date for filing application is Nov. 1. Sec., Dr. Harry Culver, 1409 Willow St., Minneapolis 4.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1937 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied with stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Journal of Hygiene, Baltimore

45:123-258 (March) 1947

Control of Anopheles Pseudopunctipennis in Mexico with DDT Residual Sprays Applied in Buildings. J. B. Gahan and G. C. Payne.—p. 123.
Effectiveness of DDT Residual House Sprays in Controlling Anopheles Quadrimaculatus. A. D. Hess and G. G. Keener Jr.—p. 133.
Antigenic Composition and Effect of Various Extracts of Trypanosoma Equiperdum and Trypanosoma Lewisi on the Leukocyte Picture in Experimental Trypanosomiasis. O. Ikejiani.—p. 144.
Diagnosis of Schistosomiasis Japonica by Means of Intradermal and Serologic Tests. W. H. Wright, J. Bozicevich, F. J. Brady and P. M. Bauman.—p. 150.
Epidemiology of Schistosomiasis Japonica in Philippine Islands and Japan: Surveys for Schistosomiasis Japonica on Mindanao, Philippine Islands. W. H. Wright, D. B. McMullen, E. Carrell Faust and P. M. Bauman.—p. 164.
Effect of Insulin on Plasmodium Lophurae Infection in Ducks. R. H. Rigdon and H. N. Marvin.—p. 185.
Fasciola Berne Ancylostomiasis. E. H. Loughlin and N. R. Stoll.—p. 191.
Occurrence of Trombicula Deliensis Walch in Southwestern China. D. D. Millspaugh and H. S. Fuller.—p. 204.
Poliomyelitis in Japan. J. R. Paul.—p. 206.
*Isolation of Poliomyelitis Virus from Throats of Symptomless Children. H. A. Howe and D. Bodian.—p. 219.
Attempts to Infect African Green Monkeys by Oral Administration of Poliomyelitis Virus. H. A. Howe and D. Bodian.—p. 223.
Rise and Decline of Poliomyelitis Virus Levels in Infected Nervous Tissue. D. Bodian and Mary C. Cumberland.—p. 226.
*Poliomyelitis Virus in Urban Sewage in Epidemic and in Nonepidemic Times. J. Melnick.—p. 240.
Effectiveness of Various Rodenticides on Populations of Brown Rats in Baltimore, Maryland. J. T. Emlen Jr. and A. W. Stokes.—p. 254.

Isolation of Poliomyelitis Virus from Throats of Children.—An outbreak of poliomyelitis in Baltimore in the summer of 1944 gave Howe and Bodian the opportunity to make observations on the presence of poliomyelitis virus in the throats of persons who had had varying degrees of contact with patients with paralytic poliomyelitis. Poliomyelitis virus was isolated from the throats of 1 of 3 patients with poliomyelitis and from 1 of 6 juvenile family contacts, but not from 5 adult familial, 7 juvenile or 6 adult extrafamilial contacts of these patients. Virus was present in the throats of at least 2 of 28 healthy children from a neighborhood playground. One year later these children were shown to have antibody against the viruses isolated from them.

Poliomyelitis Virus in Sewage.—Melnick describes further tests for poliomyelitis virus in the sewage from two urban areas. During the 1943 epidemic in Chicago, poliomyelitis virus was detected in the effluent from Imhoff settling tanks on two occasions seventeen days apart. Virus was also found in raw sewage at a plant serving another part of the city, in sewage leaving a hospital with poliomyelitis patients, and in sewage collected from a residential area in which no persons with manifest poliomyelitis were living at the time and in which none subsequently developed. When the epidemic subsided all sewage tests were negative. Monthly tests for poliomyelitis virus in New York City raw sewage have been carried out from 1940 through 1945. In four of the six years virus was detected in the sewage. In one of the two years when virus was not detected no cases of poliomyelitis were reported in the area. Virus was detected only in late summer and fall months in New York. Calculations show that in Chicago 6,000,000 monkey infectious doses of virus were leaving a sewage disposal plant per minute at the time of collection and that in New York 300,000 doses per minute were entering a sewage collection station. A 100 Gm. stool may contain 10,000 monkey infectious doses of virus.

American J. Digestive Diseases, Fort Wayne, Ind.

14:83-120 (March) 1947

Physical Symptom of Value in Diagnosis of Gallbladder Pathology. A. Bassler.—p. 83.
Hypertrophic Pyloric Stenosis in Adult. A. B. Katz.—p. 85.
Study of Mortality Rate in Series of Cholecystectomies. T. G. Orr. —p. 89.
Management of Diabetic in Acute Infections and Surgical Emergencies. J. M. Preston.—p. 93.
Cancer of Cecum: Review of Clinical Features. J. L. Jarvis and D. Cayer.—p. 95.
Evaluation of Some Antacid and Antipeptic Agents in Prevention of Gastric Ulceration in Rat. H. Shay, S. A. Komarov, H. Siplet and Margot Gruenstein.—p. 99.
Value of Gastroscopy as Diagnostic Aid in Gastric Lesions. J. Teske. —p. 104.
Pruritus Ani: Review of Oral Therapy. L. G. Bodkin.—p. 109.
Psychotherapeutic Methods in Gastroenterology. B. C. Lockwood.—p. 113.

American Journal of Medicine, New York

2:327-368 (April) 1947

Quantitative Aspects of Benzoyl Glucuronate Formation in Normal Individuals and in Patients with Liver Disorders. I. Snapper and A. Saltzman.—p. 327.
*Excretion of Benzoyl Glucuronate as Test of Liver Function. I. Snapper and A. Saltzman.—p. 334.
Hemolysis in Paroxysmal (Cold) Hemoglobinuria. P. F. Wagley, W. H. Zinkham and A. A. Siebens.—p. 342.
Bacillus Pyocyaneus Infections: Review, Report of Cases and Discussion of Newer Therapy Including Streptomycin (concluded). M. M. Stanley.—p. 347.
Rheumatic Fever in Children: Clinical and Laboratory Diagnostic Criteria. L. M. Taran.—p. 268.

Excretion of Benzoyl Glucuronate as Liver Function Test.—Snapper and Saltzman describe a simple liver function test which is based on the presence of excessive excretion of benzoyl glucuronate in the urine after ingestion of 5 Gm. of benzoic acid. The test was studied in 23 normal volunteers, in a control series of 100 patients who had no obvious hepatic disturbances and in 89 other patients in whom hepatic disturbances were suspected. In normal volunteers and in patients without hepatic disturbances the test was negative. The test was positive in all cases of hepatitis and portal cirrhosis. The test was positive also in some patients with thyrotoxicosis and in most cases of hepatic metastasis. It was negative in all of nine lymphomas. In 2 cases of early type postarsphenamine jaundice hepatocellular damage was indicated by positive tests. The glucuronate reactions remained negative in a patient with obstructive jaundice of long standing.

American Journal of Ophthalmology, Cincinnati

30:397-536 (April) 1947

Types of Congenital Cataract. F. C. Cordes.—p. 397.
Treatment of Lewisite and Other Arsenical Vesicant Lesions of Eyes of Rabbits with British Anti-Lewisite (BAL). Ida Mann, A. Pirie and B. D. Pullinger.—p. 421.
Tests for Heterophoria: Reliability of Tests, Comparisons Between Tests and Effect of Testing Conditions. R. G. Scobee and E. L. Green.—p. 436.
Acute Glaucoma: Follow-Up Study. H. S. Sugar.—p. 451.
Arachnodactyly (Marfan's Syndrome) Associated with Ectopia Lentis: Report of Case with Pigmentation of Cornea. J. V. Cassady and C. B. McFarland.—p. 469.

American J. Orthodontics and Oral Surgery, St. Louis

33:177-334 (April) 1947. Partial Index

*Some Clinical Observations Concerning Noma. C. C. Wang Sung and R. Y. Sung.—p. 284.
Premedication by Co-Medication in Local Anesthesia. S. I. Copen. —p. 290.
Master Metal Facial Cast for Swaging Lead Masks in Treatment of Carcinoma of the Skin of Face. S. G. Castigliano and P. P. Gross. —p. 319.

Noma.—Wang Sung and Sung report 30 cases of noma admitted to the Dental Clinic of West China Union University. Noma is not a disease by itself but is a terminal sign of some debilitating disease such as measles, dysentery or leukemia. There is no specific treatment for noma. Measures to restore the vitality of the patient and reestablish oral and general cleanliness appeared to be most effective. Milk, orange juice, cod liver oil, yeast, meat broth and green vegetables were fed in large quantities. Necrotic tissue, hopelessly affected teeth and alveolar sequestrums were removed gently. The mouth was irrigated

with potassium permanganate solution 1:1,000 twice a day and rinsed with warm saline solution every thirty minutes, not to obtain a germicidal effect but to remove sloughs and bacteria. Acriviolet 2 per cent applied topically was found effective. Blood transfusions revitalized dangerously ill persons.

American Journal of Surgery, New York

73:421-528 (April) 1947

Management of Extensive Complete Defects in Long Bones. J. E. Bateman.—p. 423.
*Use and Abuse of Intestinal Decompression Tube: Study Based on 200 Cases. M. O. Cantor, O. S. Kennedy and R. P. Reynolds. —p. 437.
Wounds of Colon and Rectum. J. E. Flynn.—p. 450.
Meckel's Diverticulum: Review of Literature and Analytic Study of 23 Cases, with Particular Emphasis on Bowel Obstruction. J. J. Haber.—p. 468.
Ultraviolet Blood Irradiation Therapy: Further Studies in Acute Infections. G. Miley and J. A. Christensen.—p. 486.
Myophagism Congenita. W. A. Dalmain.—p. 494.
Use of Tantalum for Facial and Cranial Defects. J. Newman.—p. 499.
Strictures Following Transurethral Resection: Comments on Indication for Operation. J. J. Stratte and J. Stratte.—p. 503.

Intestinal Decompression Tube.—By using a single lumen long intestinal decompression tube with a mercury weighted balloon tipped head Cantor and his associates have been able to intubate successfully all but 8 of 200 patients with intestinal distention. The head of this tube constitutes the propulsive mechanism. The only cases in which intestinal intubation alone can be safely used are cases of adynamic ileus or cases in the inflammatory distention group. The use of the intestinal decompression tube as a preliminary to bowel resection or anastomosis obviates the necessity for enterostomy and hence reduces the risk to the patient. Intestinal intubation should be entrusted only to one who understands the mechanism involved in the passage of the tube; that is, the surgeon. Intubation should not be relegated to the intern or nurse, because in the hands of the novice the long intestinal decompression tube is a dangerous instrument.

American Review of Tuberculosis, New York

73:109-194 (Feb.) 1947

Dispersal of Respiratory Pathogens in Relation to Occurrence and Control of Air Borne Infections. O. H. Robertson.—p. 109.
Experimental Air Borne Tuberculosis and Its Control. M. B. Lurie. —p. 124.
Discrepancies Between Clinical-Radiologic and Bronchospirometric Finding. R. F. Vaccarezza, A. Lanari and A. Soubrie.—p. 128.
*Promizole Treatment of Miliary Tuberculosis: Toxic Effects on Thyroid Gland and Maturation. Lillian Milgram, I. Levitt and Maya S. Unna. —p. 144.
Pulmonary Tuberculosis and Season of Birth. Virginia Z. Ehrlich. —p. 160.
*Carcinoma Simulating Pulmonary Tuberculosis: Differential Diagnosis in Presymptomatic Stage in 2 Cases. L. E. Siltzbach.—p. 170.
Tuberculin Testing in Student Nurses. M. N. Shoor.—p. 177.
Method of X-Ray Reproduction of the Negative X-Ray Film. A. Rest and Leona Stroud.—p. 184.

Promizole Treatment of Miliary Tuberculosis.—According to Milgram and her associates the sulfones promin, diasone and promizole, which have a great influence on experimental tuberculosis of guinea pigs, are far less effective in clinical tuberculosis. They administered promizole to 5 children with miliary tuberculosis. Three of these have survived twenty-four to twenty-seven months since the diagnosis was made. The primary chest lesions cleared very slowly and incompletely. Kidney and spine lesions appeared and progressed under continuous administration of the drug. Promizole has bizarre toxic effects on the thyroid gland, breasts and genital hair. These are more likely to appear after prolonged administration.

Carcinoma Simulating Pulmonary Tuberculosis.—Siltzbach shows that industrial mass roentgenologic surveys which include many persons above 40 years of age are bringing to light silent lung carcinomas. He presents the histories of 2 patients with such neoplasms. The first patient was sent to a tuberculosis institution, but since he remained free from symptoms and the lesion appeared unchanged he was discharged with the disease considered arrested after an eight weeks stay. He returned to work and continued to feel well. Five months later he felt a dull pain in the right scapular region. A chest film showed increase in the size and density of the lesion. The borders were sharper and the diameter measured about 4 cm. The fingers showed early clubbing and it was thought that the patient had a bronchial carcinoma. The chest was explored and a mass the size of a walnut was palpated in the posterior portion of the right upper lobe. This lobe and the right middle lobe, which adhered firmly, were extirpated. The tumor proved to be an epidermoid carcinoma. There has been no evidence of recurrence of the neoplasm for two years following the operation. The second patient was considered tuberculous for sixteen months before the true nature of the pulmonary process was realized. This patient died sixteen hours after operation. The author suggests early exploratory thoracotomy when the diagnosis is equivocal.

Archives of Neurology and Psychiatry, Chicago

57:277-396 (March) 1947

*Headache: Teeth as Source of Headache and Other Pain. S. Robertson, Helen Goodell and H. G. Wolff.—p. 277.
Central Course of Afferent Fibers for Pain in Facial Glossopharyngeal and Vagus Nerves: Clinical Observations. A. Brodal.—p. 292.
Meningeal Reaction with Abscess of Brain. B. J. Alpers and F. M. Forster.—p. 307.
Measurements of Pain Sensitivity in Patients with Psychoneurosis. W. P. Chapman, J. E. Finesinger, C. M. Jones and S. Cobb, with assistance of G. Chesley and B. L. Landing.—p. 321.
Incidence of Combat Fatigue. P. Solomon.—p. 332.
Paramyoclonus Multiplex (Friedreich): Clinicotherapeutic Study. A. A. Morris.—p. 342.
Retinal Periphlebitis Associated with Paraplegia. B. P. Silfverskiöld. —p. 351.
Congenital Facial Paralysis. J. P. Murphy and W. J. German.—p. 358.
Cogwheel Phenomenon of Eyes: Its Clinical Significance. N. Savitsky and N. W. Winkelman.—p. 362.
Localized Nontraumatic Neuropathy in Military Personnel. E. A. Weinstein.—p. 369.

Teeth as Source of Headache.—Robertson and his associates studied the effects of noxious impulses experimentally induced and of those arising from morbid processes. The initial pain induced experimentally and felt locally in a tooth had both a burning and an aching quality. The pain secondarily experienced in the head was of two varieties: (1) that due to central spread of excitation and experienced in tissues supplied by the same and adjacent divisions of the fifth cranial nerve and (2) that due to sustained contraction of the muscles of the head and neck resulting secondarily from noxious stimuli arising in the teeth. All the pain experienced remote from the site of noxious stimulation in a tooth was of a steady aching quality and was eliminated by infiltration of monocaine hydrochloride about the primary source of noxious stimuli except that secondarily arising in the muscles of the head and neck as the result of sustained muscular contraction. This component slowly decreased, usually after several hours. Following a period of spontaneous or experimentally induced noxious stimulation in a tooth, the pain threshold of the latter was appreciably lowered until ordinarily inadequate stimuli caused both local and remote pain. Noxious impulses arising from the teeth and associated with headache, although clinically important, are not a common cause of headache.

Archives of Otolaryngology, Chicago

45:283-376 (March) 1947

Sinusitis: Treatment Practiced in Air Force Hospital. A. J. Cravcovaner and J. F. Daly.—p. 283.
Treatment of Otitis Media and Sinusitis with Penicillin. S. Karatay. —p. 288.
Use of "Iso-Par" Ointment in Treatment of Otitis Externa. W. T. Reardon.—p. 294.
*Status of Penicillin in Treatment of Diphtheria: Review of the Literature and Report of Case. R. L. Peterson.—p. 298.
Galvanic Skin Response in Differential Diagnosis of Deafness. M. W. Michels and C. T. Randt.—p. 302.
Indications for the Fenestration Operation. H. P. House.—p. 312.
Correlations of Hearing Tests. B. C. Trowbridge.—p. 319.
Learning the Lempert Fenestration Operation. S. Rosen.—p. 335.
Sculptured Synthetic Prostheses as Implants in Plastic Surgery. A. M. Brown.—p. 339.

Penicillin in Diphtheria.—Peterson thinks that no definite conclusion can be drawn as to the status of penicillin in the treatment of diphtheria from the few cases reported in the literature. Although most laboratory work done in vitro suggests that penicillin might be effective in the treatment of this disease, laboratory work on experimental animals fails to bear this out. However beneficial its use might prove to be in inhibiting the growth of diphtheria organisms, penicillin could have no neutral-

izing effect on the free toxin already in the circulation and the tissues. Partial inhibition of the diphtheria bacilli does not stop the production of toxin. With present knowledge of this drug it can be recommended for use only in the treatment of carriers and of patients whose infection is persistent and who have not responded to adequate amounts of antitoxin.

Bulletin of Johns Hopkins Hospital, Baltimore

80:149-180 (March) 1947

Studies on Protein Metabolism of Infants: I. Comparative Biologic Value of Some Milk Protein Preparations. A. A. Albanese, L. E. Holt Jr., Virginia Irby, Selma E. Snyderman and Marilyn Lein.—p. 149.
Id.: II. Tryptophan Requirement of the Infant. A. A. Albanese, L. E. Holt Jr., Virginia Irby, Selma E. Snyderman and Marilyn Lein. —p. 158.
Antipellagra Action of N'-Methylnicotinamide. V. A. Najjar and Carolyn C. Deal.—p. 166.
Disappearance Time of Treponema Pallidum from Lesions of Early Syphilis Following Administration of Crystalline Penicillin G. H. A. Tucker and R. C. V. Robinson.—p. 169.
Prevention of Pyloric Ligation-Induced Ulcers of Gastric Rumen of Rats by Transabdominal Vagotomy: Preliminary Report. H. N. Harkins.—p. 174.

Bulletin New York Academy of Medicine, New York

23:121-174 (March) 1947

Centennial Celebration: 1847-1947. H. R. Craig.—p. 121.
Recent Advances in Cancer Therapy. C. D. Haagensen.—p. 123.
Tumors of Lung. H. C. Maier.—p. 136.
Occupational and Posttraumatic Cancer. F. W. Stewart.—p. 145.
Skin Tumors. A. B. Cannon.—p. 163.

23:175-242 (April) 1947

Excretion of Water. H. W. Smith.—p. 177.
Pharmacology of Streptomycin. H. Molitor.—p. 196.
*Therapy of Erythroblastosis Fetalis with Exchange Transfusion. A. S. Wiener, I. B. Wexler and T. H. Grundfast.—p. 207.
Eighty Years of Public Health in New York City. I. Weinstein.—p. 221.

Exchange Transfusions in Erythroblastosis Fetalis.—Wiener and his associates describe 2 cases of erythroblastosis which were treated by the method of exchange transfusion. This method entails the use of heparin, the injection of the donor's blood into the saphenous vein at the ankle, and the withdrawal of the infant's blood through the radial artery at the wrist. Of 17 infants treated by this technic all but 1 made a prompt and lasting recovery. This demonstrates the effectiveness as well as the safety of the procedure.

Indiana State Medical Assn. Journal, Indianapolis

40:187-298 (March) 1947

Ten Thousand Spinal Anesthesias, Five Thousand with Ephedrine Intrathecally—Random Comment. F. T. Romberger and F. W. Ratcliff.—p. 217.
Care of Intertrochanteric Fractures of Femur. F. E. Hagie.—p. 219.
Survey of Treatment of Syphilis. J. F. Dalton.—p. 221.
Pruritus Ani. L. R. Pearson.—p. 224.
Treatment of Gonorrhea in Male with Penicillin. R. D. Howell.—p. 225.
Mental Hygiene for General Practitioner. S. T. Ginsberg.—p. 229.

40:299-394 (April) 1947

Complications of Craniocerebral Injuries. P. C. Bucy.—p. 329.
Significance of Changes in Female Breast. C. A. Nafe.—p. 334.
Leukoplakia and Carcinoma of Vulva. D. A. Bickel.—p. 338.
Psychiatric Trend in Medicine. E. V. Hahn.—p. 340.
American Medicine Looks to the Future. G. F. Lull.—p. 348.
The Nurse Shortage. E. Nancy Scramlin.—p. 352.

Iowa State Medical Society Journal, Des Moines

37:145-186 (April) 1947

*Action of Choline on Blood Lipid Fractions in Cirrhosis of Liver, Diabetes Mellitus and Related Conditions of Disturbed Fat Metabolism. W. D. Paul, Kate Daum and C. R. Kemp.—p. 146.
Punch Biopsy of Liver. T. L. Carr.—p. 152.
*Vaginal Smear in Diagnosis of Gynecologic Cancer. W. E. Brown, O. F. Kraushaar and J. T. Bradbury.—p. 155.
Physiologic Basis for Therapeutic Trends in Neuromuscular Dysfunction. Norma M. Hajek and H. M. Hines.—p. 157.
Diagnosis and Treatment of Congenital Syphilis. F. E. Simpson. —p. 160.
Psychiatric Needs of General Hospitals. P. E. Huston and J. S. Gottlieb.—p. 163.

Action of Choline in Cirrhosis of Liver and Related Conditions.—Paul and his associates studied patients with diabetes mellitus, cirrhosis of the liver, multiple sclerosis and a miscellaneous group of pathologic conditions in which abnormal fat metabolism is a factor. The diabetic patients receiving choline showed more nearly normal lipid levels than a control group. Low lipid levels were found in cirrhosis, and choline produced a definite increase in the blood lipid levels in a significant number of these. In general, choline therapy improved the blood lipid picture whenever abnormalities existed previous to its administration. A correlation existed between the laboratory findings and the subjective responses to the administration of choline. All subjects noted an increased sense of well being, an improved appetite and an increase in vigor. Both the objective and the subjective results of choline therapy support the importance of this drug and of lipotropic agents in general in treatment of conditions related to abnormal fat metabolism.

Vaginal Smear in Diagnosis of Gynecologic Cancer.—Brown and his associates took vaginal smears from women with and without symptoms suggestive of cancer. Among 65 women with bleeding and discharge there were 16 with positive, 9 with suggestive and 40 with negative vaginal smears. Of 103 without symptoms, 3 had positive and 4 suggestive smears. In a group of 25 women who had previously been treated for carcinoma and had returned for routine checkup, clinical examination revealed recurrence in 14, and the vaginal smear was in agreement 13 times. The smears from the 11 women who showed no clinical evidence of recurrence were negative in 10 instances. It is proposed to screen all women over 30 entering the University Hospital and the female inmates of the state institutions.

Journal of Bacteriology, Baltimore

53:257-381 (March) 1947. Partial Index

*Methylcellulose and Bacterial Motility. A. Pijper.—p. 257.
Comparative Distribution and Possible Pathogenicity of Paracolobactrum Species in Area Highly Endemic for Enteric Infections. W. B. Christensen.—p. 317.
Classification of Richettsiae of Rocky Mountain Spotted Fever and Endemic (Murine) Typhus. Ida A. Bengtson.—p. 325.
Penicillin: X. Effect of Phenylacetic Acid on Penicillin Production. A. J. Moyer and R. D. Coghill.—p. 329.
Influence of Temperature on Opsonization and Phagocytosis. Christine Zarafonetis, Doralea R. Harmon and P. F. Clark.—p. 343.
Relation Between Rate of Growth of Mutant Strain of Escherichia Coli and Efficiency of Utilization of Arginine. J. O. Lampen and M. J. Jones.—p. 351.
Micromonosporin, an Antibiotic Substance from a Little Known Group of Micro-Organisms. S. A. Waksman, W. B. Geiger and Elizabeth Bugie.—p. 355.

Methylcellulose and Bacterial Motility.—Pijper shows that solutions of methylcellulose provide a suitable medium for the study of bacterial motility. Such solutions possess sufficient viscosity to slow down the movement of otherwise fast moving bacteria and thus supply conditions for detailed observation. The special advantage of methocel over the solutions of gelatin and gum used heretofore for this purpose is that the precipitation of the colloid material on bacterial bodies and appendages is minimal, so that motility is not hindered by this thickening. Solutions can be prepared in which for a long time the amount precipitated on the bacteria is just enough to make the fine appendages ("flagella") visible by ordinary dark-ground methods with ordinary lamps. Methocel therefore places the dark-ground study of bacterial motility and bacterial appendages during life within the scope of ordinary microscopic technic.

Journal of the Mount Sinai Hospital, New York

10:297-352 (March-April) 1947

Edward Gamaliel Janeway Lecture: The Sword and the Ploughshare. C. P. Rhoads.—p. 299.
Physiologic Problems in Treatment of Heart Disease. W. Dock.—p. 310.
Operability of Malignant Pulmonary Neoplasms, with Special Reference to Cancer of the Lung. H. Neuhof.—p. 318.
*Effect of Atabrine on Auricular Fibrillation and Supraventricular Tachycardia in Man. M. M. Gertler and S. B. Yohalem.—p. 323.
Tuberculous Fecal Fistula Following Pelvic Surgery: Case Report. D. A. Dreiling.—p. 328.
Echinococcus Alveolaris Infection of Human Liver: Case Report. T. Weinberg.—p. 334.

Effect of Quinacrine on Auricular Fibrillation Tachycardia.—Gertler and Yohalem report 2 cases, 1 of auricular fibrillation and the other of nodal tachycardia, in which regular sinus rhythm was established by the use of quinacrine (atabrine) intramuscularly and intravenously, respectively. Nine cases in

all are on record in this hospital to date. This is a preliminary report stressing the usefulness of quinacrine in auricular fibrillation and paroxysmal supraventricular tachycardias as an alternative to quinidine.

J. of Pharmacology & Exper. Therap., Baltimore

89:205-296 (March) 1947

Toxicity and Analgetic Potency of Salicylamide and Certain of Its Derivatives as Compared with Established Analgetic-Antipyretic Drugs. E. R. Hart.—p. 205.
Glucuronic Acid Excretion After Diethylene Glycol Monoethyl Ether (Carbitol) and Some Other Glycols. Jean K. Fellows, F. P. Luduena and P. J. Hanzlik.—p. 210.
Comparison of Bronchodilator Activity of Benadryl with Some of Its Derivatives and Certain Other Substances. F. W. Ellis.—p. 214.
Anesthesia: XXIV. Effect of Cholesterol on Pentothal and Ether Anesthesia. C. B. Farmer, C. J. Carr and J. C. Krantz Jr.—p. 222.
Toxicologic Study of Two Histamine Antagonists of the Benzhydryl Alkamine Ether Group. O. M. Gruhzit and R. A. Fisken.—p. 227.
Comparative Activity of Various Antihistaminic Substances Toward the Vasodepressor Response to Histamine. D. F. Marsh and A. J. Davis Jr.—p. 234.
Pharmacologic Properties of Antihistamine Drugs Benadryl, Pyribenzamine and Neoantergan. T. R. Sherrod, E. R. Loew and H. F. Schloemer.—p. 247.
Circulatory Properties of *iso*-Thioureas, Guanidines, *iso*-Ureas and Amidines. F. N. Fastier and F. H. Smirk.—p. 256.
Pharmacology of Benzyl-Imidazoline (Priscol) R. P. Ahlquist, R. A. Huggins and R. A. Woodbury.—p. 271.
Factors Influencing Toxicity of Sympathomimetic Amines to Solitary Mice. M. B. A. Chance.—p. 289.

Journal of Urology, Baltimore

57:619-788 (April) 1947

*Late Results of Partial Nephrectomy for Calyectasis with Stone. W. J. Engel.—p. 619.
Conservative Treatment of Renal and Ureteral Colic. J. H. Morrissey.—p. 635.
Chronic Typhoid Pyonephrosis: Report of Case. P. K. Bondy and C. H. Burnwell.—p. 642.
*Surgical Approach to Renal and Other Retroperitoneal Tumors. T. H. Sweetser.—p. 651.
Distant Metastases of 58 Renal Neoplasms: Case Report of Secondary Metastatic Pulsations from a Renal Tumor. B. C. Nalle Jr.—p. 662.
Kidney Tumors: Clinical and Pathologic Study, with Special Reference to "Hypernephroid" Tumor. N. A. Harvey.—p. 669.
Transplantation of Ureters into Rectosigmoid for Exstrophy of Bladder: Review of 41 Cases. C. C. Higgins.—p. 693.
New Technic of Ureterointestinal Anastomosis: Further Report. A. Davalos.—p. 701.
Total Cystectomy for Infiltrating Carcinoma of the Bladder. S. J. Ritter.—p. 719.
Utilization of Heat in Treatment of Tumors of the Urinary Bladder: Presentation of Technic. B. C. Corbus and B. C. Corbus Jr.—p. 730.
*Anterolateral Chordotomy for Refractory Interstitial Cystitis with Intractable Pain. R. M. Nesbit.—p. 741.
True Prostatic Calculus. A. Gentile.—p. 746.
Histopathologic Study of Prostatic Tissue Following Endoscopic Prostatic Resection. R. W. Barnes, R. T. Bergman and S. Farley.—p. 755.
Chemistry of Carcinoma of the Prostate. S. W. Mulholland.—p. 758.
Transurethral Resection to Relieve Urinary Retention Following Operations on the Rectum and Sigmoid. J. E. Bisquertt T. and J. L. Emmett.—p. 771.
Genital Histoplasmosis. A. C. Curtis and E. P. Cawley.—p. 781.

Partial Nephrectomy for Calyectasis with Stone.—Engel reviews 9 cases in which partial nephrectomy has been done for calyectasis with stone and the patients followed for five or more years. The operation is indicated in all cases in which stones are present in dilated calices with evidence of infundibular constriction and is especially applicable when this involves the upper or lower calices, the remainder of the pelvis being essentially normal. The removal of the pathologic calix reduces the chance of recurrent stone. No recurrence has been observed in any case in this series for from five to twelve years after operation. Infection in the kidney cleared up after operation. The intervention carries no greater risk or morbidity than other operations for kidney stone.

Surgical Approach to Renal and Other Retroperitoneal Tumors.—Sweetser describes his scheme for an extraperitoneal approach to renal tumors and stresses that surgery for any mass in the kidney or retroperitoneal tissues should be undertaken with recognition of the possibility of cancer. Exploration is begun through an oblique incision in the flank, and only when cancer is demonstrated is the incision extended. The incision described preserves the nerve supply of all the abdominal muscles. The unopened peritoneum helps in control and retraction of the intraperitoneal organs and protects them from infection and from damage by evaporation and by trauma of packs and retractors. The lateral posture of the patient and shape of the flap result in better exposure than any other approach because the abdominal contents drop away toward the opposite side with little or no need for retractors, and the area of the renal vascular pedicle comes well up into the wound for accurate and adequate primary treatment.

Anterolateral Chordotomy for Intractable Pain in Interstitial Cystitis.—Many patients with interstitial cystitis can be kept reasonably comfortable with a variety of therapeutic methods, but some eventually become refractory and for these Nesbit recommends anterolateral chordotomy. Although chordotomy interrupts the upper sensory neurons concerned with the conduction of pain impulses, it does not interfere with the pathways that mediate the sensations of touch or distention and it does not interfere with the primary reflex arc that controls the bladder. The upper motor neuron remains intact. The patient should be able after chordotomy to urinate at will and with normal micturitional control and should be able to empty his bladder completely. Bilateral anterolateral chordotomy in 2 patients relieved the intractable pain of interstitial cystitis that was refractory to all forms of treatment, including sympathectomy. A remarkable feature in 1 case was that the typical lesions of interstitial cystitis have apparently healed completely. The second patient reported that he was free from bladder pain and that he had normal micturitional control and no nocturia. His sexual function seems to be entirely normal. The preservation of sexual function in the male patient was unexpected. The results obtained in these 2 cases suggest that chordotomy is a logical procedure in advanced interstitial cystitis, but the seriousness of the operation should limit its use to refractory cases alone.

Military Surgeon, Washington, D. C.

100:289-374 (April) 1947

Adaptation of Filtrable Viruses to Different Host Species and Different Tissues. R. A. Kelser.—p. 289.
Medical Accomplishments in New York, New Jersey and Delaware During World War II, with Particular Reference to Metropolitan New York. C. M. Walson.—p. 294.
Evacuation of Sick and Noneffective Wounded in Amphibious Warfare. L. D. Carson.—p. 305.
Naval Research in Oral Pathology. C. A. Schlack.—p. 313.
Effect of High Altitude on Oral Tissues. C. Schuessler.—p. 318.
Medical Rehabilitation Program of the Veterans Administration. A. B. C. Knudson.—p. 323.
Formation Vertigo: Oculovestibulo Disorientation in Formation Flying. E. P. Fowler Jr.—p. 330.
Nursing Under Fire. C. Edwina Todd.—p. 335.

Northwest Medicine, Seattle

46:249-328 (April) 1947

Carcinoma of Colon. K. C. Sawyer.—p. 278.
Carcinoma of Head of Pancreas. L. F. Martinson, S. R. Gillespie, D. G. Duncan and A. L. Severeide.—p. 283.
Anesthesia for Prolonged Operation. N. E. Hamilton.—p. 285.
Extensive Calcification of Pancreas. C. J. Johannesson.—p. 286.
Cause of Congenital Defects Following Rubella in Mother: Role of Adrenals. E. E. Brown.—p. 288.
Study of Diets of Patients in Prenatal Clinic with Attempt to Correlate Dietary Adequacy with Physical Findings. Mary W. Northrop and Geraldine M. Piper.—p. 294.
*Pompholyx and Its Treatment. B. Schuster.—p. 298.

Treatment of Pompholyx.—Pompholyx (dyshidrosis cheiropompholyx) is an acute or subacute skin disease occurring on the hands and feet, characterized by sago-grainlike deeply embedded vesicles and occasionally bullae which may become pustular. They have a tendency to recur during warm weather. Systemic reactions are usually mild, but general malaise may be present and the usual complaints are nervousness, irritability and depression. The therapy of pompholyx has been so disheartening and unsatisfactory that many patients with this condition have long since given up hope of receiving satisfactory relief. Schuster says that Benedek cultured a sporogenous bacillus from closed, intact blisters of pompholyx which he called B. endoparasiticus. He developed a vaccine and used it successfully in the treatment of the disease. Schuster reports

several cases in which he used Benedek's vaccine. Of 17 cases treated, 13 were considered therapeutically successful. The average number of injections in those responding to Benedek's vaccine was eight.

Pennsylvania Medical Journal, Harrisburg

50:569-680 (March) 1947

Suggested Methods for Control of Present Epidemic of Tinea of Scalp. S. M. Peck.—p. 569.
Penicillin Treatment of Acute Middle Ear and Mastoid Infections. J. G. Wilcox.—p. 574.
Physical Medicine in Pediatrics. A. A. Martucci.—p. 578.
Dermatologic Problems in Returning Veteran. C. S. Livingood.—p. 581.
Carcinoma of Renal Pelvis and Ureter: Etiology and Treatment. A. E. Bothe.—p. 588.
Hyperthyroidism Without Goiter, with Reference to Use of Propylthiouracil. H. L. Foss and H. M. Klinger.—p. 591.
Postmenopausal Bleeding. Catherine Macfarlane.—p. 598.
Liver Function Tests. Eleanor H. Vilfentine.—p. 602.
Radium Therapy to Nasopharynx for Peritubal Lymphoid Tissue. J. S. McMurray.—p. 606.
Clinical Experiences with Benadryl in Allergic States. L. L. Pennock.—p. 609.
Malaria—Some Practical Considerations. G. G. Duncan.—p. 614.

South Carolina Medical Assn. Journal, Florence

43:59-92 (March) 1947

Modern Chemistry Applied to Modern Medicine. W. M. McCord.—p. 59.
Striking Response with Thiouracil in Hyperthyroidism. W. C. Cantey.—p. 61.

Southern Surgeon, Atlanta, Ga.

13:167-232 (March) 1947

Blalock Operation for Congenital Pulmonic Stenosis: Report of 2 Successful Cases. C. B. Olim and J. G. Hughes.—p. 167.
Retroperitoneal Chylous Cyst. H. E. Simon and B. Williamson.—p. 181.
Modern Management of Peripheral Vascular Diseases. E. L. Lowenberg.—p. 187.
Volvulus Neonatorum. J. A. K. Bush, Cora C. Lenox and H. C. Myers.—p. 204.
Management of Diseases of Pancreas. H. Acuff.—p. 209.
Carcinoma of Breast. G. T. Howard Jr.—p. 221.

Surgery, St. Louis

21:443-604 (April) 1947

Surgical Treatment of Aneurysms of Abdominal Aorta. G. De Takats and J. T. Reynolds.—p. 443.
Resection of Primary Liver Tumors. J. W. Duckett and H. G. Montgomery.—p. 455.
One Stage Pharyngoesophageal Diverticulectomy. R. W. McNealy and J. A. Glassman.—p. 470.
Surgical Management of Carcinoma of Right Portion of Colon with Secondary Involvement of Duodenum, Including Duodenocolic Fistula: Data on 8 Cases. M. Cahnemson and B. M. Black.—p. 476.
McArthur Operation for Inguinal Hernia. F. Christopher and O. J. Penna.—p. 482.
Incisional Hernia, Operative Technic. D. V. Troppoli.—p. 485.
*Adenomatous Goiter Without Hyperthyroidism: Surgical versus Conservative Treatment in Over 200 Patients. J. A. Buckwalter, E. L. Besser and J. W. Dulin.—p. 491.
*Gastric Resection for Peptic Ulcer: Study of 200 Consecutive Cases. R. N. Bartels and J. W. Dulin.—p. 496.
Congenital Hypertrophic Pyloric Stenosis. J. T. Akin and G. B. Forbes.—p. 512.
Lesions of Ampulla of Vater. H. L. Baker and Delma W. Caldwell.—p. 523.
Enterogenous Cysts of Duodenum: Case Report and Review of Literature. T. A. Shallow, F. B. Wagner Jr. and W. B. Manges.—p. 532.
Intraperitoneal Hemorrhage Complicating Simple Large Bowel Obstruction. F. N. Dealy and P. A. Miceli.—p. 542.
Tantalum Cranioplasty: Method for One Piece Fixation. H. C. Dahleen.—p. 546.
Definitive Treatment of Gunshot Wounds of Head. H. Conway and R. T. Hendricks.—p. 556.
Afferent Conduction via Sympathetic Ganglia Innervating Extremities. F. D. Threadgill.—p. 569.
Surgical Management of Vascular Leg Ulcers. H. C. Rees and J. G. Slevin.—p. 575.
Device to Test and Improve Circulation in Pedicle Flap. H. May.—p. 582.
Treatment of Superficial Pyogenic Infections by Direct Injection of Penicillin. J. M. Kenney.—p. 588.
Effects of Protein and Methionine on Nitrogen Balance of Burned Rats. A. Chanutin and S. Ludewig.—p. 593.

Adenomatous Goiter Without Hyperthyroidism.—Buckwalter and his associates sent out questionnaires to members of the medical and surgical departments in a number of medical schools inquiring as to management of patients with nontoxic nodular goiter. Questionnaires were sent also to 374 patients with nontoxic nodular goiters seen at the University of Iowa Hospitals. Fifty-nine per cent of the patients who had been operated on were improved, while only 8 per cent of those not operated on were improved. The nodular goiter, usually referred to as nontoxic, is often associated with symptoms of nervousness and irritability, palpitation, tachycardia and loss of weight. These symptoms are present when the basal metabolic rate is within normal limits. Surgery is indicated for this group of patients because it will result in relief of symptoms in a significant percentage of cases.

Gastric Resection for Peptic Ulcer.—An earlier review of 50 consecutive gastric resections for peptic ulcer, performed between 1927 and 1940, convinced Bartels and Dulin that their postoperative mortality was too high, that their indications for resection were too limited and that the recurrent ulcer rate was too great. In 100 resections performed from 1941 to 1943 inclusive the postoperative mortality rate was reduced from 28 to 8 per cent. In a further series of 121 resections done in 1944 and 1945 it was further reduced to 1.6 per cent. Radical resection of the stomach did not increase the mortality rate. The indications for resections in peptic ulcer have been extended, as is evidenced in the increasing number of resections performed. The recurrent ulcer rate has been reduced from 14.7 per cent in the first 50 gastric resections to 4.3 per cent in the 92 survivors of the 100 resections performed between 1941 and 1943. There are no known recurrent ulcers in the 119 survivors who were resected in 1944 and 1945. Recurrent ulcer was more frequent after conservative than after radical resection. A relative achlorhydria is necessary to prevent recurrent ulcer.

Texas State Journal of Medicine, Fort Worth

43:621-672 (March) 1947

Present Status of Knowledge Concerning Etiology of Primary Atypical Pneumonia. S. E. Sulkin.—p. 629.
Congenital Atresia of Esophagus with Tracheoesophageal Fistula. W. H. Bradford.—p. 634.
Physiologic Changes During Spinal Anesthesia. J. Adriani.—p. 638.
Review of 9,000 Obstetric Cases at Harris Memorial Methodist Hospital, Fort Worth, Texas. G. H. Beavers, J. Bennett, R. L. Grogan and C. Hiett.—p. 640.
How Innocent Is the Ordinary Nonpigmented Mole? C. Phillips.—p. 645.

Virginia Medical Monthly, Richmond

74:97-144 (March) 1947

Surgical Treatment of Bronchiectasis—Role of Penicillin in Postoperative Care. M. L. White Jr.—p. 97.
Application of Principles of Early Ambulation to Surgical Patients. E. T. Trice.—p. 103.
Pseudomastoiditis. F. V. Gammage.—p. 108.
Treatment of Prehepatic Liver with Ascites: Report of Case. H. W. Blanton and R. M. Miskimon.—p. 111.
Acute Appendicitis, with Case Report. J. A. Gannon.—p. 115.
Choice of Forceps. A. K. Turner.—p. 118.
Hemorrhage in Putrid Lung Abscess. E. S. Ray.—p. 121.

74:145-194 (April) 1947

Medical Service Second to None. E. C. Harper.—p. 145.
Selection of Obstetric Forceps to Suit Case. E. H. Dennen.—p. 150.
Occiput Posterior and Its Treatment. M. B. Savage.—p. 153.
*Para-Aminobenzoic Acid in Treatment of Rocky Mountain Spotted Fever. G. W. James III, and H. Walker.—p. 161.
Juvenile Rheumatic Fever. L. A. Eigen.—p. 168.
Dissimulation in Schizophrenic Psychoses. L. I. Hallay.—p. 176.
Do Bony Spurs Cause Pain? F. Hopkins.—p. 179.

Para-Aminobenzoic Acid in Rocky Mountain Spotted Fever.—James and Walker present the histories of 4 patients with Rocky Mountain spotted fever in whom they employed para-aminobenzoic acid. The first patient was a Negro woman aged 49 who was given an initial dose of 8 Gm. on the fourth hospital day and then 2 Gm. every two hours. Three days after the para-aminobenzoic acid was started her delirium cleared, the fever lessened and her appetite returned. After this she improved rapidly, and the medication was discontinued after ten days. She was able to give a history of a tick bite before being taken ill. She was discharged as being cured on the twenty-first hospital day. The other 3 patients likewise recovered after treatment with para-aminobenzoic acid. The authors believe that this drug exerts a definite therapeutic effect on Rocky Mountain spotted fever in both modifying its severity and hastening recovery.

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FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Ophthalmology, London

31:193-256 (April) 1947. Partial Index

Experimental Observations on Intravitreous Use of Penicillin and Other Drugs. J. P. Duguid, M. Ginsberg, I. C. Fraser and others.—p. 193.
Case of the Laurence Moon Biedl Syndrome Showing Atypical Retinitis Pigmentosa Associated with Macular Dystrophy. C. Taylor.—p. 211.
Case of Congenital Vertical Shortness of the Lids Combined with Tetrastichiasis. J. Landau.—p. 219.
Gröenblad-Strandberg Syndrome. S. Gördüren.—p. 228.
Improved Dark Adaptometer. W. Koch.—p. 235.
Circulatory Studies of Fundus of Eye. P. Weinstein and J. Forgács. —p. 238.

British Medical Journal, London

1:403-436 (March 29) 1947

Marrow Biopsy: Preparation and Use of Paraffin Sections from Sternal Puncture Material. D. F. Cappell, H. E. Hutchison and G. H. Smith.—p. 403.
*Parotidectomy: Indications and Results. H. Bailey.—p. 404.
Plea for Lateral Orbitotomy (Krönlein's Operation). H. B. Stallard. —p. 408.
Lipoid Pneumonia: Pitfall in Diagnosis. R. E. Rewell.—p. 409.
Teratoma of Testis: Spontaneous Disappearance of Lung Metastases. J. E. Schofield.—p. 411.
Basal Cell Carcinoma at Site of Trauma. T. G. Reak.—p. 412.
Folic Acid in Pernicious Anemia: Effect as Shown by Serial Sternal Punctures. H. Levy.—p. 412.

Parotidectomy.—Bailey states that a mixed parotid tumor remains curable for years, sometimes for a decade or more, yet because of misconceptions concerning its behavior and its treatment it is allowed to pass from curability to an incurable malignant condition. After discussing the bogey of facial palsy and the illusion of enucleation, the author gives his attention to operative details. Surgical operation in the parotid region has been stultified by the instructions surgeons receive from anatomists. Bailey calls attention to an excellent illustrated description of the true anatomy of the parotid gland and its relationship to the facial nerve given by members of the Department of Anatomy of the University of Chicago. Nearly all parotid tumors are completely radioresistant. If various misconceptions were swept aside and if general surgeons would devote time and attention to parotidectomy, parotid tumors would take their place among curable tumors.

Lancet, London

1:315-354 (March 15) 1947

Atomic Energy. J. Chadwick.—p. 315.
*Added Infections in Burns: Study of 233 Cases. L. Colebrook, J. M. Duncan and W. J. H. Butterfield.—p. 321.
*Hypertensive Headache Treated with Potassium Thiocyanate. P. J. W. Mills.—p. 324.
Stevens-Johnson Syndrome: Report of Case. M. Nellen.—p. 326.
Stevens-Johnson Syndrome: Report of 2 Cases. J. O. Murray.—p. 328.
Urinary Excretion of Phosphatases in Man. A. S. V. Burgen.—p. 329.

Added Infections in Burns.—Colebrook and his associates say that during a twelve months period involving more than 1,400 dressings cross infection by hemolytic streptococci, Pseudomonas aeruginosa and Proteus vulgaris introduced while dressing burns has been almost entirely eliminated by doing the dressings in a dust free atmosphere, using a strict aseptic technic and using a penicillin-sulfathiazole cream as a routine application. During the same period a few added infections by these three organisms have occurred (33 in all), but most of these added infections occurred in patients whose burns had been imperfectly covered before they were redressed. The incidence of added infection in burns which were found to be imperfectly covered when they arrived for redressing was ten times as high (8.6 per cent) as that of the burns which had perfect cover throughout the period between dressings (0.8 per cent). Among the 224 patients admitted without streptococcic infection only 12 acquired this infection during their stay in the hospital, and the clinical effect of these few added infections was practically nil. The problem of controlling added infections of burns with Staphylococcus aureus remains untouched. These infections, which are numerous, may well play a prominent part in the slow healing of burns during the later stages of recovery.

Hypertensive Headache Treated with Potassium Thiocyanate.—Mills used potassium thiocyanate in the treatment of 27 cases of benign hypertension in which headache and giddiness were prominent symptoms. Besides these, 8 cases of benign hypertension, presenting with symptoms other than headache and giddiness, and 10 cases of malignant hypertension were treated. The conclusion reached is that this drug has a definite but limited place in the treatment of hypertension and should be restricted to cases in which hypertensive headache is a predominating and troublesome symptom and does not respond to simpler forms of therapy. This drug does not affect the course of the disease nor does it permanently lower the blood pressure, even in cases in which there is much symptomatic improvement. Potassium thiocyanate should be regarded purely as a palliative.

1:355-394 (March 22) 1947

The Chronic Sick in Hospital: Psychiatric Approach. J. W. Affleck. —p. 355.
*Treatment of Anuria Following Intravascular Hemolysis. R. H. Dobbs. —p. 360.
*Palpable Epitrochlear Glands: Incidence and Relation to Syphilis. L. Martin.—p. 363.
*Revaccination in Adults. J. C. Broom.—p. 364.
Sexual Inversion: Ethical Study. D. Stanley-Jones.—p. 366.
Anterior Bone Graft for Recurrent Shoulder Dislocation. J. C. B. Hindenach.—p. 369.

Treatment of Anuria Following Intravascular Hemolysis.—In the case described by Dobbs a soldier appeared to be dying of extreme oliguria and uremia following massive hemolysis after transfusion. Decapsulation of one kidney under spinal anesthesia was followed by an immediate diuresis, which reached a maximum in ten days, and by a more gradual return to normal of urine and blood urea level and by eventual recovery. Improvement probably cannot take place until diuresis sets in; consequently, when decapsulation is contemplated, it should be undertaken early. The case presented here was 1 of 8 in which decapsulation was done, with recovery in 7, whereas of 46 treated conservatively 31, or about two thirds, were fatal. Unilateral decapsulation appears to be sufficient and is probably followed by diuresis and eventful recovery in both kidneys. Rapid diuresis but slow recovery of the concentrating power of the kidney suggests that anuria and tubular damage have a separate etiology. Tubular damage is sustained as the toxic products of hemolysis pass down and are concentrated in the tubules. Raised intrarenal tension possibly plays its part in the production of anuria, but a more satisfactory explanation is that it is reflex in origin and that decapsulation is effective by removing sympathetic nerve impulses. The spinal anesthesia used in the operation of decapsulation may be a factor in initiating diuresis. Splanchnic block would be a more satisfactory method and has been used with success in reflex anuria and in transfusion kidney.

Palpable Epitrochlear Glands in Syphilis.—According to Martin there is a belief that enlargement of the epitrochlear glands is suggestive of syphilis in the stage of general adenitis which precedes secondary skin eruptions. Palpable epitrochlear glands were so commonly observed in soldiers during the late war that the author made a survey to define their normal limits of size and their incidence in adult males. A survey comprising 200 soldiers and 100 male civilians between the ages of 16 and 50 showed that epitrochlear glands were palpable in about 40 per cent. Of the palpable epitrochlear glands, 14 per cent exceeded the size of a cherry stone. Appreciation of these normal limits is essential before describing a palpable epitrochlear gland as enlarged or pathologic. There is no reliable evidence to support the belief that enlarged epitrochlear glands are more characteristic of syphilis than of other diseases which cause glandular enlargement.

Revaccination in Adults.—Broom says that during 1945 civilians were recruited by UNRRA to administer the camps then being set up in northwestern Europe for "displaced persons." On the assumption that the risk of infection would be high in these camps it was decided that every member of the staffs who did not possess a certificate of vaccination less than a year old should be vaccinated against smallpox. A series of 1,227 adult revaccinations against smallpox is described. Details are given of the method of vaccination, including the insertion of killed virus as an indicator of sensitivity to vaccine lymph.

Sensitivity reactions are shown to develop at all intervals and to be unrelated to immunity. It is suggested that these reactions lead on occasion to misinterpretation of the response to vaccination. Attention is drawn to the lack of provision in the international certificate of vaccination against smallpox of a category to include persons who are insusceptible to vaccinia but do not show the reaction of immunity; an alternative method of certification is proposed.

Acta Clinica Belgica, Brussels

1:489-593 (Nov.-Dec.) 1946. Partial Index

Medical Treatment of Pulmonary Abscess. J. V. Joossens and A. Lantmeeters.—p. 489.
*The Question of Agonal Bacteremia in Human Subjects. M. Millet, M. Keeremans and L. Fincler.—p. 502.
*Malignant Exophthalmos with Ophthalmoplegia Following Treatment with Thyroid Inhibitors. P. A. Bastenie and R. F. Tagnon.—p. 531.
Importance of Bronchial Lesions in Patients with Pneumonoconiosis. W. Bruninx.—p. 536.

Agonal Bacteremia in Human Subjects.—Millet and his associates studied the problem of agonal bacteremia by blood cultures in dying patients and observing body invasion early after death. They conclude that invasion of the blood stream by intestinal microbes during agony occurs in only a few instances when the natural immunity is low.

Malignant Exophthalmos Following Treatment with Thyroid Inhibitors.—Bastenie and Tagnon present the histories of 2 patients who developed toxic diffuse goiter after treatment with thyroid inhibiting substances. One of the patients had been treated with aminothiazole and the other with thiouracil. These observations prove the dissociation between the toxic and the ocular symptoms of toxic diffuse goiter. In both patients severe exophthalmos developed after the basal metabolism had returned to normal or below it. What makes the 2 cases especially noteworthy is the rapid appearance of palpebral edema, chemosis and ophthalmoplegia. The exophthalmos subsided on discontinuance of the thyroid inhibiting medication and administration of small doses of thyroid.

Schweizerische medizinische Wochenschrift, Basel

77:275-298 (March 1) 1947

*Thiomidil (4-Methyl-Thiouracil) in Treatment of Hyperthyroidism. O. Spühler.—p. 275.
Mode of Action of Pneumoperitoneum. K. Lenggenhager.—p. 283.
Origin and Site of Formation of Cutaneous Melanogen. J. Wohlgemuth.—p. 285.
Genesis of Generalized Edema: Role of Chloride. Catherine Koumine.—p. 290.

Thiomidil (4-Methyl-Thiouracil) in Hyperthyroidism.—Spühler maintains that thiomidil, 2-thio-4-methyl-6-oxypyrimidin, was somewhat less toxic and more effective than thiouracil in the treatment of 50 cases of thyrotoxicosis. The doses required are smaller with this preparation than with other thiourea derivatives. In order to avoid the development of myxedema as the result of excessive doses, the basal metabolism must be tested at regular intervals or the blood cholesterol must be ascertained. The struma may become harder and larger as the result of excessive doses, but these changes rapidly disappear after the drug is discontinued. At the onset of the medication there may be excitation and nausea, but these subside quickly and do not necessitate interruption of the medication. Although no cutaneous eruptions or granulocytopenia were observed, watch must be kept for the possible development of agranulocytosis. Thiomidil should not be given to pregnant women because it rapidly passes to the fetus and may cause damage. Medication with thiomidil increases the sensitivity to digitalis and strophanthin, so that previously ineffective doses become active.

Revista med. del Hospital General, Mexico, D. F.

9:253-336 (Jan.) 1947. Partial Index

*Hemorrhage in Liver Cirrhosis. J. Flores Espinosa.—p. 253.

Hemorrhages in Liver Cirrhosis. — Flores Espinosa observed 275 patients with liver cirrhosis at the Hospital General de Mexico City during a period of three years. A necropsy was performed on 49 patients. The cause of death in 25 cases was massive fatty degeneration of the liver. In 11 patients who died of acute anemia following acute or repeated gastrointestinal hemorrhages, bleeding was due to ulcerated gastric or esophageal varices and less frequently to multiple ruptured capillaries of the gastric mucosa and submucosa and to blood dyscrasia of the type of purpura due to metabolic disorders of the C and K vitamins. Clinically the hemorrhagic tendency is manifested by blood spitting or by small gingival and subcutaneous hemorrhages, hematuria and gastrointestinal hemorrhage. The bleeding time and coagulation time are prolonged, the prothrombin time shortened and the number of blood platelets diminished. The therapy of gastrointestinal hemorrhage in cirrhosis is preventive. It consists in administering a diet rich in proteins, carbohydrates and vitamins and poor in fats. Insulin, dextrose, liver extracts, local diathermy of the hepatic region, choline and methionine also are indicated.

Acta Medica Scandinavica, Stockholm

126:437-612 (March 3) 1947. Partial Index

Three Cases of Felty Syndrome. O. Ytrehus.—p. 437.
Changes in Blood Pressure During Period of Starvation (September 1944 to May 1945) and After Liberation (May 1945 to September 1945) in Utrecht, Holland. S. Lups and C. Francke.—p. 449.
Changes in Electrocardiogram During Allergic Shock. T. Castberg and M. Schwartz.—p. 459.
Influence of Transfusion Velocity on Occurrence and Rate of Reactions. B. E. Gernandt and B. Swedberg.—p. 472.
Hyperchromic Anemia with Megalocytes Refractory to Liver Therapy: Achrestic Anemia. E. F. J. H. Falger.—p. 505.
Comparative Frequency of Diphtheria in the Vaccinated and the Non-vaccinated. R. Reudu.—p. 529.
*Does Poliomyelitis Virus Grow in Sewage? C. A. Evans.—p. 541.
Electrocardiogram in Typhus. L. Norviit.—p. 565.

Does Poliomyelitis Virus Grow in Sewage?—Evans presents data which suggest that the number of carriers of poliomyelitis virus in the population during times of moderate incidence of poliomyelitis must frequently approximate 1 per cent. If 1 per cent of the population is excreting poliomyelitis virus at a given time, and if a 1,200 cc. sample of sewage contains 0.5 to 1.5 Gm. of feces, this amount of sewage will contain, on the average, 5 to 15 mg. of feces from excretors of virus. It might reasonably be expected to infect monkeys with occasional specimens of this small size. Therefore the finding of poliomyelitis virus in sewage is compatible with the results that might be expected on the basis of contamination from carriers of virus. The growth of virus in protozoa or other microorganisms of sewage is not essential to explain such isolations. However, such growth of virus, or the simple harboring of virus by micro-organisms in sewage, cannot be excluded.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

91:477-532 (March 25) 1947. Partial Index

Frequency of Infection of Urinary Passages. L. Loopuyt.—p. 482.
New Methods for Examination of Feces for Pathogenic Intestinal Bacteria and Its Significance for Epidemiologic Examination. A. C. Ruys.—p. 487.
*Treatment of Hernia of Nucleus Pulposus or of Prolapse of Intervertebral Disk. A. C. de Vet.—p. 493.

Hernia of Nucleus Pulposus.—According to de Vet it is possible to differentiate between prolapse of the intervertebral disk in which pressure of the nucleus pulposus drives the annulus fibrosus outward and the typical hernia in which the tissue of the nucleus pulposus perforates through an opening in the annulus fibrosus into the vertebral canal. As a rule in case of prolapse backache predominates, whereas in the presence of hernia symptoms of sciatica are most pronounced. Since prolapse and hernia may be combined, symptoms of backache and sciatica may be present. The classic complaints of chronic low back pain and sciatica may become intensified as the result of mechanical influences and by hydrodynamic factors. The clinical examination does not always permit a correct localization; in these cases myelography is indicated. Surgical intervention should never be adopted unless conservative therapeutic measures have been applied. Absolute rest is one of the most successful methods of conservative treatment. The extradural approach is highly preferable to the transdural one, but the latter cannot always be avoided. It should be accepted as a rule always to examine both sides of the disk.

Book Notices

The Treatment of Diabetes Mellitus. By Elliott P. Joslin, A.M., M.D., Sc.D., Medical Director, George F. Baker Clinic, New England Deaconess Hospital, Boston, and others. Eighth edition. Cloth. Price, $10. Pp. 961, with 13 illustrations. Lea & Febiger, South Washington Square, Philadelphia 6, 1946.

Joslin's textbook on diabetes mellitus, now in its eighth edition and expanded by the collaborative effort of his associates, is undoubtedly the best known book on the subject. It has become encyclopedic in its scope, recording not only the extensive clinical experience of its authors in the George F. Baker Clinic in Boston but referring impartially to most of the relevant work of others. Such an imposing array of facts concerning one disease is a monument to the painstaking effort of the group who have collected and organized them, and especially to the senior author.

The title of this book has always remained "The Treatment of Diabetes Mellitus." Except for the wisdom of preserving the original title it is somewhat misleading, because the breadth of coverage of the book goes far beyond therapeutics. Everything of any interest related to diabetes mellitus is described completely and accurately, in a well organized manner and with the insight and interest that only clinicians who have studied thousands of patients and most of the pertinent experimental and clinical literature can accomplish. For many practicing physicians, students and interested laymen the volume has become a veritable Bible on diabetes.

The new edition is revised with elaborate thoroughness, retaining most of the authors' statistical data and fundamental concepts regarding the disease and at the same time adding all new and important developments since the previous edition. The sections on alloxan diabetes, degenerative complications, insulin modifications, pregnancy and related endocrine disorders are revised from a particularly modern point of view.

In addition to the well known sections by the chief author, Drs. Root and Marble have each written or contributed to eight chapters out of thirty-one, and Drs. White and Bailey each five. Associated diseases such as cancer, syphilis and tuberculosis, as well as neurologic, hematologic, cutaneous, genitourinary, allergic and surgical disorders are covered with exhaustive thoroughness.

The experience of Dr. Joslin and his associates is spread over forty-eight years, covers about 29,000 diabetic patients (of whom more than 8,000 have died), about 2,200 children and more than 300 pregnancies. During this period major changes in therapy and understanding of the disease have taken place. The average age at death has risen from 44 to 64 years. It is now therefore almost the same as in nondiabetic persons. The careful follow-up records and analyses of their own cases made by the Boston group of clinicians provides an invaluable source of statistical data on many subjects. Largely because of them the estimated million diabetic subjects in this country are now able to obtain life insurance.

The picture of the disease painted in faithful detail in this volume from the point of view of such extensive contact is literally the backbone of modern knowledge, in English speaking countries at least, regarding diabetes mellitus. Every physician who is interested in the disease should have the book available for reference.

Nursing in Commerce and Industry. By Bethel J. McGrath, R.N., Chief Industrial Nursing Consultant, American Association of Industrial Nurses, Minneapolis. For the National Organization for Public Health Nursing. Cloth. Price, $3. Pp. 256, with illustrations. Commonwealth Fund, Division of Publications, 41 E. 57th St., New York 22; Oxford University Press, Amen House, Warwick Sq., London, E. C. 4, 1946.

This book, by the former industrial nursing consultant of the National Organization for Public Health Nursing, is by all odds the most authoritative and readable textbook on industrial nursing which has been published to date. Written by a nurse who has actually worked in commerce and industry and who knows the problems from first hand observation, it answers a need long felt not only by the nursing profession but by employers, personnel workers and others concerned with the development of sound health programs in industry. Dr. Alice Hamilton has written an introduction in which she comments on the great changes which have taken place in industrial medicine since she first entered that scene in 1910. Mrs. McGrath's basic interest in industrial nursing is interwoven with allied fields, and her subject matter covers a wide territory. The book opens with a history of industrial nursing since the first nurse was employed in 1895 to serve the workers of the Vermont Marble Company of Proctor, Vt. Chapters follow on the relationships of the nurse with "top management," personnel and safety departments, employees and employee organizations; physical facilities of an industrial trial health service, healthy working environment; a health program for every worker; occupational accidents and hazards; occupational and nonoccupational diseases; mental hygiene, sight conservation, orthopedic nursing; nutrition; problems peculiar to women; communicable disease control, records and reports; rehabilitation, workmen's compensation; welfare activities, and part time nursing service given to industry by outside organizations. Special attention is devoted to the need for competent medical direction of the nurse in the plant. Whether the physician in charge is full time, part time or on call, the nurse must have a clearcut understanding of the amount and kind of authority he has delegated to her and must have suitable written orders. These topics give some indication of the subject matter the author covers. The book is scholarly, the material well arranged, the format pleasing. There are charts, samples of record forms, samples of standing orders, and in addition to a comprehensive list of references at the end of each chapter also a listing of sources of information. The book fulfils the implications of its title. Dr. Hamilton has concluded her introductory comments with the statement "This book is not only for nurses, it is for the general public." It will repay careful study by those in close contact with workers, and it will prove helpful to any whose primary interest and concern are in humanity.

Ophthalmic Surgery and Sight-Testing. By M. A. Kamath, M.B. & C.M. Second edition. Cloth. Price, 4 rupees. Pp. 297, with 67 illustrations. The Author, Planters Lane, Mangalore, S. K. Dt., 1944.

This is intended for the general practitioner in India for care of patients too far from the centers where trained ophthalmologists are available. The book is very elementary and includes chiefly the diseases encountered in India. The author describes surgical procedures which are often done by practitioners in India. Many general surgeons in mission hospitals in India do 200 operations in a year for cataract. On page 160 when writing of complications of the cataract operation the author states that detachment of the choroid is due to hemorrhage and causes severe pain. He has confused this condition with expulsive hemorrhage of the choroid. Detachment of the choroid is quite common after intraocular operations and disappears without treatment in a few days. The book may be of value to the general practitioner in India but will have no sale in the United States, where many much more authoritative works are available.

Annual Review of Biochemistry. Edited by J. Murray Luck, James H. C. Smith and Hubert S. Loring. Volume XV. Cloth. Price, $5. Pp. 687, with illustrations. Stanford University, California: Annual Reviews, Inc., 1946.

The present volume of the annual reviews of biochemistry maintains the high standards set by its predecessors. Well indexed, it is an exceedingly useful means of locating information recently published in this field, and the mode of treatment has the advantage that each item is critically evaluated and oriented with respect to other items. The twenty-one reviews deal with biologic oxidations and reductions, nonoxidative enzymes, plant carbohydrates, the chemistry of the lipids, the chemistry of the proteins and amino acids, the chemistry of the steroids, carbohydrate metabolism, fat metabolism, the metabolism of proteins and amino acids, the vitamins, the chemistry of the hormones, the biochemistry of teeth, growth factors for micro-organisms, photosynthesis, the respiration of plants, the biochemistry of yeast, bacterial metabolism, immunochemistry, organic insecticides, the viruses and inactivation and detoxication of pressor amines. The excellent quality of this book adds to the significance of the opening tribute on page vii to the memory of Carl L. A. Schmidt.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

PENICILLIN ALLERGY

To the Editor:—A man has had morning attacks of sneezing and rhinitis for several years, which were believed to be due to cigarets. In 1932 he developed a mild urticaria following the use of amidopyrine, which disappeared when the drug was discontinued. Two brothers have asthma and hay fever respectively. Six weeks ago he developed a sinus and bronchial infection and discontinued smoking. The sneezing and rhinitis stopped promptly and have not recurred. For the sinus infection he was given two injections of 50,000 units each of penicillin in oil (Isolvacillin) at twelve hour intervals followed by 20,000 units in isotonic solution of sodium chloride every three hours for five doses. The sinus infection was cured. However, twelve days after penicillin therapy the patient developed urticaria, which has persisted for four weeks. Pyri-Benzamine (Ciba) 100 mg. three to four times a day controls the itching and the rash, but, if this medication is not taken regularly urticaria breaks out on different areas of the body. Calcium gluconate 15 grains (1 Gm.) four times a day was given for several days. Is the urticaria due to penicillin? Should allergic tests be done? What other treatment is advised?

Warren L. Trexler, M.D., Tapton, Pa.

ANSWER.—Urticarial reactions occurring several days after penicillin administration constitute the most common allergic manifestation from this drug. Such a reaction usually lasts from one or two days to three or four weeks. In some cases the urticaria continues to persist. In such instances two possible explanations can be offered. One possibility is that new additional sensitivities have been added to the penicillin allergy, perhaps because of modification of the sensitizing mechanism. The other explanation of this phenomenon may be that the allergic reaction to penicillin may initiate a conditioning of tissues so that they now respond similarly to other stimuli with release of H-substance responsible for vascular changes resulting in urticaria.

Calcium salts intravenously are more effective than calcium orally. Nonspecific treatment such as typhoid or colon bacillus vaccine subcutaneously may be effective in altering the conditioning mechanism. Skin tests usually fail to give the desired information in the etiologic diagnosis of urticaria. It is better to observe the patient's diet and other exposures to allergenic substances. Is he taking other drugs? If so, these drugs should be avoided. Restricted diets are usually indicated in such cases. One of the simplest diets is a diet composed exclusively of milk products. A less radical diet is one eliminating such foods as fish, nuts, fresh fruits and vegetables.

SENSITIVITY TO GALLBLADDER DYE

To the Editor:—A woman aged 38 had a severe reaction on the evening after taking a gallbladder dye (Priodax), with the sudden development of severe chills, a temperature of 104.4 F. and severe generalized pains specifically localized in the pelvic girdle and receiving ¼ grain (15 mg.) of morphine sulfate for relief. The following day her temperature was normal but she was badly weakened by this febrile episode. On the second day after the episode she felt perfectly well. She had never previously had any similar illness. There was no evidence of chronic malaria, infection or influenza. It was suspected that the reaction was due to the ingestion of the gallbladder dye. Previous administration of iodides by mouth had been attended by minimal amounts of gastrosis, which had been thought elsewhere to be sensitivity to the iodides. The Graham Cole study has not been repeated. Has any idiosyncrasy of this type been reported?

M.D., Illinois.

ANSWER.—Since the introduction of Priodax in roentgenology of the gallbladder numerous articles have appeared in which the toxic symptoms of the drug have been discussed. The symptoms encountered include nausea and vomiting, diarrhea, mild griping abdominal pain, burning on urination, epigastric distress, burning of the throat, dizziness and headaches. None of these have been severe. Severe reactions of the type described in the inquiry were not encountered in 3,000 gallbladder visualizations in a large clinic in which the drug was used. Similarly, perusal of the current literature does not yield further information on the subject. Although one cannot rule out Priodax as the cause of this reaction without further tests, it is quite possible that the offender may be the iodine radical contained in the drug, since the patient is known to be sensitive to it. Investigation of an idiosyncrasy to both iodine and Priodax may be undertaken, using one of the accepted dermatologic methods.

TREATMENT OF SCABIES

To the Editor:—An entire family consisting of 2 adults and 3 children is under treatment for scabies. The condition has been present for over six months. They have been under the care of competent men and have received numerous courses of sulfur and benzyl benzoate with apparent cures, only to have recurrence in one or two weeks. The treatments were properly applied and followed by correct sterilization of the personal and bed clothing. The family lives in a one story single house. How long can Acarus scabiei live away from the human host (i. e., on sheets or clothing)? Can the scabies mite live in furniture, toys and other household fixtures and for how long? Is it necessary to remove the family temporarily and fumigate the house to rid the house of Acarus scabiei? What method of treating the bedding is best?

Irving Saffron, M.D., Dorchester, Mass.

ANSWER.—Experiments by Mellanby, Johnson, Bartley and Brown (*Bull. Entomol. Res.* **33**:267, 1942) indicated that at 55 F. and 90 per cent relative humidity the majority of itch mites died within one week when kept off the human host. A few survived as long as fourteen days. At temperatures below 55 F. survival times were shorter. In careful experiments carried out in England on volunteers during the war (Mellanby, Kenneth: *Brit. M. J.* **2**:405 [Sept. 20] 1941) success was attained only twice out of sixty-three trials in transmitting the mite through infested underclothing and blankets even though conditions were made as favorable as possible to successful transmission. On the other hand, even slight personal contact serves as an effective means of spread. Most instances of persistence of the infestation in families are the result of incomplete treatment without the repetition so necessary to complete eradication of second or third generation mites. Although benzyl benzoate is the most potent carcopticide known, it is difficult for the patient to apply the liquid or cream preparations satisfactorily himself. Sarcoptes is sensitive even to moderate heat. Adult females in the experiments noted were killed in ten minutes at 120 F., in thirty minutes at 117.5 F. and in twenty-four hours (not more than forty-eight hours) at 82 F. It would appear from these experiments that one might kill the mites in a house in one week end by maintaining a temperature of 85 to 90 F.

PAINFUL VENOUS DILATATION

To the Editor:—A white woman aged 44 developed generalized acute intermittent pains two years ago along the course of the veins in the arms and legs. During the attacks of pain the particular veins involved become dilated and purled up and are extremely tender to touch. This occurs in the various parts of the extremities but is most pronounced in both the arms and the shoulders. The patient has tried physical therapy and various types of intravenous injections (including sodium citrate) without relief. The pain is so severe in the morning that she is unable to rise. The past history includes scarlet fever at the age of 31 and an appendectomy at 36. Her menstrual history is normal. The pulse, blood pressure and temperature are normal. Serologic tests, sedimentation rate and blood count are normal. The patient has been hospitalized for observation. We are unable to find records of similar cases. Please discuss the diagnosis.

Michael Smith, M.D., West Palm Beach, Fla.

ANSWER.—The data supplied by the inquiry do not suffice to give constructive help. It is stated that the veins puff up and become tender intermittently, particularly in the arms and shoulders. If the superficial network of veins is meant, they are ordinarily not visible in the shoulders except in the presence of an obstruction of the subclavian veins or of the superior vena cava. It is not clear whether these attacks represent sudden rises in venous pressure, generalized or localized, or whether they are attacks of venospasm or of periphlebitis. The lesion may be neurologic or functional.

TOXIC EFFECTS OF CASITE

To the Editor:—Are there any ill effects from the use of casite by automobile mechanics?

Riley Burnett, M.D., Biloxi, Miss.

ANSWER.—Casite is a solvent designed for the removal of sludge from motors (not to be confused with "Caseite," an unrelated hardener for metal treatment). The formula for casite may have been modified within the past few years. At one time this fluid had the following characteristics: a distillation range with the initial point at 334 F. and an 85 per cent completion at 700 F.; flash point 180 F.; free from acid; specific gravity 0.916. While identification is incomplete, it is probably a naphtha derivative akin to kerosene and gas oil plus a base of light engine oil. Dermatitis (oil furunculosis or naphtha dermatitis) may follow skin contact. Naphtha vapors from gross exposure may provoke "naphtha jags," an acute condition resembling acute alcoholism. Prolonged excessive exposure may induce a rare condition, "chronic naphtha poisoning," with features resembling multiple sclerosis.